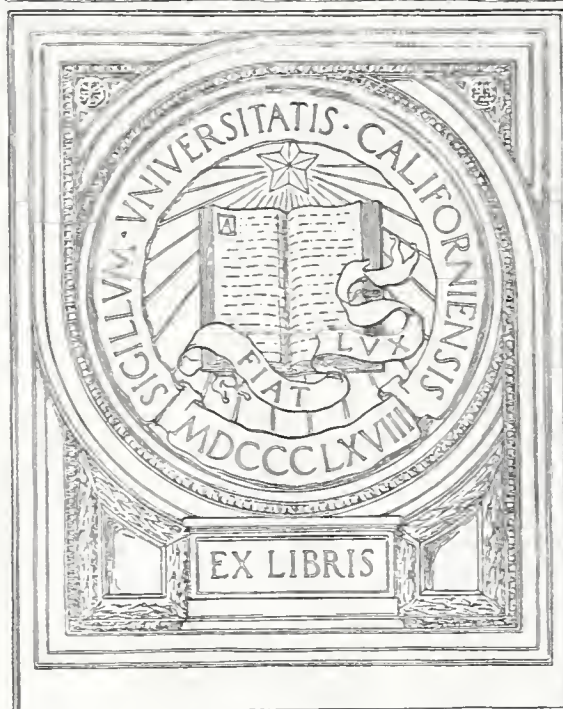




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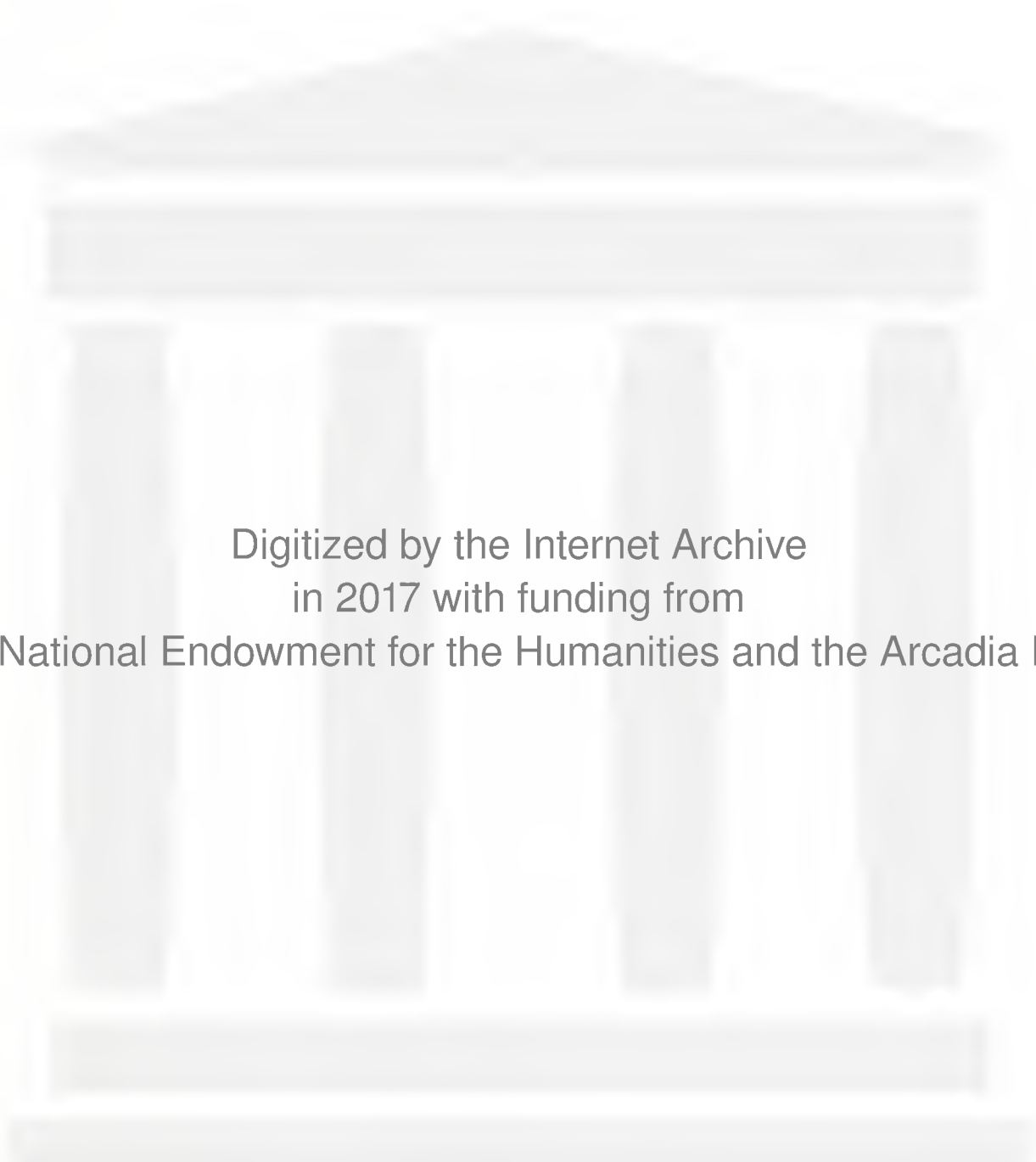


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Volume 7, Number 1

March, 1965





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1. Griffith, R.S., and Black, H.R.: *Current Ther. Res.*, 6: 253, 1964.

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Volume VII, No. 1

March, 1965

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# ALASKA MEDICINE

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# TUMORS OF THE STOMACH

*By George T. Pack, M.D.*

*Pack Medical Foundation, New York, N. Y.*

*Presented at the Alaska State Medical Convention, Ketchikan, May, 1964*

## **Incidence of Gastric Cancer**

Cancer of the stomach accounts for approximately 20,000 deaths annually in the United States. It is more common in males (86.6 per cent of 1,100 patients studied at the Memorial Hospital, New York City). Although gastric cancer is a disease of middle and later life, 27.1 per cent of patients were under 51 years of age.

## **Heredity**

In the family histories of patients with cancer of the stomach it was found that this disease occurs more frequently in relatives than in the general population, but the difference is too slight to be significant. In a survey of 237 cases of primary gastric cancer in the Memorial Hospital, a slight predominance of this lesion in patients in the type A blood group was found.

## **Socioeconomic Status; Race and Nationality**

White men and women in the lowest economic and social class have a gastric cancer incidence more than 50 per cent in excess of that for persons in the highest class. The stomach is one of the major sites where the cancer risk is higher among Negroes. An interesting phenomenon is the earlier age at which the disease appears in Negroes and reaches its peak. In Japan, carcinoma of the stomach caused 54.2 per cent of all cancer deaths in males and 39.4 per cent in females. The incidence of gastric carcinoma is very high in Iceland as compared with English and America.

## **Decline in Stomach Cancer Rates**

Epidemiologic reviews shows a steady decline in stomach cancer rates in the United States for both men and women during the past several decades, age-adjusted rates per 100,000 for the United States declining from 28.8 in 1930 to approximately 11 per 100,000 at the present time.

## **Classification and Morbid Anatomy of Gastric Cancer**

### **BORRMANN CLASSIFICATION**

The Borrmann classification is based on the gross morphologic pattern of the cancer and has

enjoyed international usage. Four types of cancer are listed by Borrmann, as follows:

Type 1. Polypoid carcinoma (sharply demarcated)

Type II. Ulcerated carcinoma (sharply demarcated)

Type III. Ulcerating invasive carcinoma

Type IV. Diffusely infiltrating carcinoma

## **POLYPOID OR FUNGATING CARCINOMA**

Many of the polypoid or fungating carcinomas arise on the basis of pre-existing polyps, but this cannot always be asserted in retrospect. In the beginning, the fungating carcinomas are well delineated and are of relatively slow growth, extending into the lumen rather than by invasion. They are frequently found in the fundus and pars media of the stomach. These cancers may be multicentric in origin. The polypoid cancer is invariably associated with achlorhydria and there is usually coexistent severe anemia.

## **ULCEROCANCER**

The ulcerocancer is usually more shallow than the benign ulcer and does not have the overhanging clean-cut margins. The cancer usually has a shaggy, foul, and necrotic base. The ulcerating cancers seldom perforate through the stomach wall in the fashion of the benign ulcer. The stomach wall bordering the cancer may exhibit a flat plateau halo with loss of the rugal pattern. This type of cancer is invasive away from the lumen. Free hydrochloric acid is often found in the gastric juice.

## **DIFFUSELY INVASIVE CANCER**

This neoplasm may be a combination of the invasive and the fungating types of adenocarcinoma, varying from the well-differentiated to the anaplastic cancer. The majority of these cancers are found to be inoperable at the time of laparotomy and even when technically resectable, may not be curable to any high degree. Blood vessel invasion frequently occurs, as well as widespread metastases by way of the lymphatics to the perigastric, para-aortic, hepatic hilar, and other lymph nodes. The cancer tends to invade neighboring organs by continuity.



## LINITIS PLASTICA

The implicated organ is colloquially termed "leather-bottle stomach" because of its shrinkage, shape, and fancied resemblance. The characteristic feature is a tremendous submucosal desmoplasia, causing the stomach wall to be rigidly thickened with hyaline, fibrous, scarlike tissue of cartilaginous consistency. The stomach has a diminished capacity because of contraction and lack of distensibility. The cancer cells are infrequent and scattered, and as the fibrosis increases, the tumor cells diminish in number. The extent of the linitis plastica may be total or subtotal.

## CARCINOMA IN SITU

Carcinoma in situ is limited to the superficial part of the gastric mucosa, whereas superficial spreading carcinoma can involve the submucosa. Carcinoma in situ and the so-called superficial spreading carcinoma are not disparate types but only early and late stages of the same entity. Carcinoma in situ may originate from multiple points, with the foci separated by normal intervening mucosa. Verse was the first to emphasize the character and importance of these early lesions. It is not known how long it takes carcinoma in situ to evolve to the stage of clinical gastric cancer.

## SEGMENTAL DISTRIBUTION

An approximate frequency in involvement of the different segments of the stomach by carcinoma is as follows: pylorus and antrum, 45 per cent; pars media, 25 per cent; cardia or proximal segment, 12 per cent; greater curvature, 6 per cent; total or diffuse involvement of the stomach, 12 per cent.

### Distribution of Metastases from Gastric Cancer

In a series of 1,000 patients with cancer of the stomach, 11 per cent (110 patients) on initial physical examination presented clinical evidence of metastasis to regions that permitted an immediate prognosis of inoperability and incurability, e.g., the perirectal tissues, the signal node of Virchow-Troisier, the palpable nodular liver, diffuse lymphatic pulmonary carcinosis, ascites, the umbilical nodule, remote nodal metastases. The Krukenberg tumor of the ovary is a metastatic cancer composed of signet-ring cells containing droplets of mucin. The most common primary site is the stomach, but it occasionally originates in other portions of the gastrointestinal tract.

Cancers in the proximal gastric segment metastasize to all groups of perigastric lymph nodes: 54 per cent to the fundal nodes, 64 per cent to the superior pancreaticolienal group, 40 per cent along the greater curvature, and 12 per cent to the infrapyloric and retropyloric group. Cancers in the middle segment of the stomach metastasize to lymph nodes in the superior lesser curvature group in 32 per cent of patients; to nodes in the fundal group, in 42 per cent; to nodes in the infrapyloric and retropyloric group, in 26 per cent. Cancers in the distal gastric third metastasize to nodes in the infrapyloric and retropyloric group in 42 per cent of patients; to nodes in the superior lesser curvature group, in 17 per cent; to nodes in the greater curvature group, in 42 per cent; and to nodes in the lower lesser curvature group, in 58 per cent; except in advanced cases, they seldom metastasize to nodes in the hilum of the spleen and along the superior margin of the pancreas. The surgical significance of this metastatic distribution is that total gastrectomy under ideal conditions should be done for cancers in the proximal and medial segments of the stomach, but subtotal gastrectomy, including the entire lesser curvature and preserving the fundus, should be done for cancers in the distal third of the stomach. The total gastrectomies are accompanied by splenectomy and subtotal removal of the distal two thirds of the pancreas.

## Symptomatology and Diagnosis

### SYMPTOMATOLOGY

Most gastric cancers announced their presence by vague and nonalarming symptoms. A sense of indefinite, postprandial epigastric uneasiness, which is unfortunately relieved by alkalies, is usually the first symptom. Increased fatigability, distaste for food, or a mild anemia usually follows. An occasional patient may have a typical ulcer history of preprandial and postprandial epigastric pain, relieved by alkalies at least during the initial episodes. Dysphagia is more frequent in patients with cancer of the cardia. Loss of weight is the most frequent symptom, occurring in 83.5 per cent of patients; vomiting occurs in 60 to 90 per cent of patients; anorexia in 30 per cent; weakness in 20 per cent; eructation in 18 per cent, and hematemesis in 8 per cent. The duration of symptoms apparently bears no relation to the resectability of the cancer, because a more anaplastic and highly malignant cancer grows more rapidly and evokes symptoms earlier. The time of change in the symptoms presented by the

patients is important in those who have a history of the ulcerlike syndrome, because of the warning manifested by change in the symptoms, characterized by increasing pain, no longer relieved effectively by diet and medication, and accompanied by anorexia and loss of weight.

### PHYSICAL FINDINGS

A definitely palpable mass is present in only 45 per cent of patients; cachexia in 20 per cent; abdominal tenderness in 17 per cent; and metastasis to superficial lymph nodes in 5 per cent. Of 216 patients with cachexia and/or emaciation, 80 had gastric cancers in a stage permitting resection, which confirms our opinion that these symptoms do not constitute sufficient reason for classifying a particular case as one of the inoperable gastric cancer.

### GASTRIC ANALYSIS

Achlorhydria occurs in 40 to 60 per cent of patients with gastric cancer and is a useful, although often a misleading, factor in establishing the diagnosis, particularly in patients 55 years or older, since 15 to 20 per cent of normal persons in this age group may fail to secrete hydrochloric acid, with or without histamine stimulus. The presence of free hydrochloric acid is of no significance in ruling out carcinoma of the stomach. Gastric analysis can be considered only one of the series of tests that may or may not be of confirmatory significance.

### ROENTGENOGRAPHIC EXAMINATION

The fluoroscope and the x-ray apparatus as a tool in the hands of an experienced operator are the most reliable means for the detection and diagnosis of gastric cancer. In 1,022 patients who had a series of gastrointestinal roentgenograms made at the Memorial Hospital, the roentgenologist made an unequivocal diagnosis of changes compatible with gastric cancer in 91.5 per cent. In an additional 31 patients, an inconclusive diagnosis was made. For 56 patients, a report of findings within normal limits was made; the diagnosis in these cases was subsequently established by gastroscopy or operation.

### GASTROSCOPIC EXAMINATION

The chief indication for gastroscopy is the differential diagnosis of visible defects in the stomach, e.g., gastric ulcer or ulcerocancer. The value of gastroscopy is not in the examination of an unmistakable gastric tumor, but the establishment of an early diagnosis of cancer and the determination of its operability.

### CYTOLOGIC EXAMINATION OF GASTRIC JUICE

The study of exfoliated cells from the gastric mucosa is valuable as a supplementary diagnostic procedure, particularly when roentgenograms and fluoroscopy do not provide conclusive evidence of accuracy by this method is in the neighborhood of 95 per cent.

### Relation of Gastric Ulcer to Gastric Cancer and Factors Influencing Choice of Treatment

The histologic evidence of the conversion of benign gastric ulcers to ulcerocancers is too scant to permit the assumption that gastric ulcer per se is a common precancerous lesion. The practical question is not concerned with the possibilities of secondary malignant degeneration of a chronic gastric ulcer (estimate, 5 per cent) but rather if the ulcerated lesion in the stomach of a given patient is benign or malignant.

Age in itself has little statistical significance in the differential diagnosis except in patients more than 60 years old, in whom one should suspect carcinoma more frequently than benign gastric ulcer. The percentage of ulcerating lesions that are malignant increases with age. Many surgeons and pathologists insist that the size of the ulcer in itself has little significance in differential diagnosis. Larger ulcers are more apt to be malignant than smaller ones, yet the very small ulcers are sometimes carcinomatous and the very large ones can be benign. Ulcers on the greater curvature of the stomach are most frequently malignant although there are occasional exceptions. The higher up on the lesser curvature one goes toward the cardia, the higher is the proportion of malignant ulcers. Ulcers in the region of the incisura angularis are most frequently benign.

The ulcer syndrome in patients with ulcerocancer occurred in 6.4 per cent of 1,000 patients with proved gastric cancer in the Memorial Hospital series; all these patients had symptoms for more than twelve months.

The percentage of excised gastric ulcers, supposedly benign, which are found to be cancerous on microscopic study varies from 10 to 15 per cent.

### Sarcoma of the Stomach

Primary sarcomas of the stomach are of two main types, originating either from the lymphoid or the somatic tissues, and are, therefore, the malignant lymphomas and the soft somatic tissue sar-



comas. The former group is comprised mainly of the reticulum-cell sarcoma, the small round-cell sarcoma, plasmocytoma, Hodgkin's disease, and leukemia; whereas the latter group consists mainly of leiomyosarcoma and rare examples of liposarcoma, angiosarcoma, and malignant neurilemmoma. Lymphomas frequently demonstrate gastric localization as one aspect of a systemic process, whereas the soft somatic tissue sarcomas are almost invariably true primary tumors. At the Memorial Hospital, 62 primary gastric sarcomas constituted 3.7 per cent of all primary malignant tumors of the stomach; of these, 24 (38.7 per cent) were leiomyosarcomas and 38 (61.3 per cent) were malignant lymphomas. The symptoms of gastric sarcoma depend not on the histogenesis, but on the size and location of the tumor as well as the presence or absence of ulceration and infection. Patients with leiomyosarcomas had symptoms within an average of 5.8 months and those with lymphosarcomas within 8.3 months before seeking definitive treatment.

#### **Leiomyosarcomas of the Stomach**

Leiomyosarcomas may be grouped, according to their location in the stomach wall, as intramural, submucosal, subserosal, or dumbbell tumors. They are usually well demarcated, frequently spherical in shape, sometimes lobulated. When the tumors grow large, they tend to protrude from the stomach and become more or less pedunculated. The very large epigastric leiomyosarcomas become pedunculated because of their great size and weight. A central ischemic necrosis occurs in these leiomyosarcomas and may result in extensive abscess formation with destruction of the overlying mucosa, and be responsible for severe gastric hemorrhages. The number of mitoses establishes the malignant character of the neoplasm, but mitoses are not as numerous as in the majority of other malignant tumors. The prognosis is directly proportional to the mitotic rate seen throughout these smooth-muscle tumors, i.e., low curability when there are many mitoses, high curability when there are few mitoses. The presence of a mural defect of wall density, smooth spherical encroachment on the barium shadow, sharply angulated margins, and abrupt, regular mucosal edges stretched smooth, with intraluminal ulceration makes the roentgen diagnosis of myogenic tumors of the stomach dependable.

Leiomyosarcoma is more suitable for excisional surgery than any other histologic variety of gastric cancer, a fact which may be attributable to

its average low grade of malignancy. Enucleation gastrectomy is usually adequate; inspection of the interior of the stomach may determine whether a total gastrectomy should be done. Three out of four of these tumors have been resectable, and the five-year definitive cure rate has been better than 40 per cent.

#### **Metabolic Alterations in Patients with Gastric Cancer**

In addition to weight loss and reduced blood volume, certain other disturbances in the metabolism of the patient with gastric cancer are apparent, such as an elevated serum bilirubin, decreased serum protein, decreased plasma prothrombin, impaired cholesterol esterification, increased mean corpuscular volume of erythrocytes, decreased glucuronates. Numerous metabolic alterations occur during operations for cancer of the stomach, such as decrease of hepatic glycogen under the stress of the operation. In the immediate postoperative period, the hepatic lipids are increased in the liver as proved by quantitative studies of liver specimens. The refractory anemia, which is often macrocytic in nature and which in the presence of considerable and constant blood loss may be microcytic, may persist postoperatively, possibly due to failure of absorption of cyanocobalamin (vitamin B<sub>12</sub>).

#### **Malignant Lymphoma of the Stomach**

Lymphosarcoma in the stomach may exist as a bulky, vascular, polypoid tumor with some demarcation from the normal stomach wall, or as a flat ulcer with infiltration of indeterminate extent, or as multiple small tumors of the submucosa, or as a diffuse, rubber-like thickening of the gastric wall with no demarcation or nodularity. The giant rugae are sometimes completely replaced by infiltrating lymphoma. This diffuse infiltration causes a loss of pliability and functional capacity of the stomach. Almost 3 per cent of malignant tumors of the stomach are primary lymphomas.

Gastric localization may be only part of a generalized lymphomatosis, and for this group radiation therapy only is indicated; but for primary lymphosarcomas confined to the stomach and the immediate adjacent lymph nodes, total gastrectomy should be performed, followed by postoperative irradiation. Subtotal resection of the stomach for these patients has been abandoned. Preoperative irradiation is not given, be-



cause the lymphomatous character of the tumor is seldom determined until the time of laparotomy. More than 30 per cent of patients with primary gastric lymphosarcoma are living from three to twenty years following the combination of extended gastrectomy and postoperative irradiation.

### **Surgical Treatment of Gastric Cancer**

Many resections performed for the cure of gastric cancer in earlier years were no more radical than those conducted for duodenal ulcer. Radical subtotal gastrectomy remains the standard operative procedure for the treatment of the majority of gastric cancers confined to the distal segment of the stomach. Carcinomas of the antrum, of the posterior wall of the pars media, and the small, ulcerating lesions of the lower lesser curvature are readily resectable by this operation, always in combination with perigastric lymph node dissection and omentectomy. Metastases to the hilar nodes of the spleen and to the superior pancreatic group seldom occur with cancers in this location; therefore, distal partial pancreatectomy and splenectomy may not be a part of this routine. The lesser curvature should always be sectioned just below the esophagogastric junction, a procedure that is somewhat difficult by laparotomy but facilitated by a short thoracic extension of the incision. The greater curvature is divided at the level of the spleen or higher.

Whenever the cancer in the distal segment seems to be closely adherent to adjacent structures and edema of the first part of the duodenum complicates exposure of the vascular supply, the operating may be done with greater facility and safety by performing the resection in reverse order, that is to say, a high transection of the stomach followed by gastrojejunostomy and, finally, retraction of the distal segment of the stomach toward the right, concluding with a transection of the duodenum.

For the restoration of gastrointestinal continuity after subtotal gastrectomy, the Billroth II principle of repair is preferred over the Billroth I plan of anastomosis.

### **The Extended Total Gastrectomy for Cancer**

Total gastrectomy alone is insufficient as it does not remove the field of lymphatic spread with the entire stomach. The extended total gastrectomy based on the anatomic studies of lymphatic spread implies a complete gastrectomy, par-

tial distal pancreatectomy, splenectomy, dissection of the gastrocolic and gastrohepatic omenta as well as the areolar and lymphatic tissues extending over the hepatic triad to the portal fissure, and clearing of the celiac axis. An obvious contraindication to total gastrectomy is the definite and evident incurability of the cancer. It is true that even though the purpose of the operation of total gastrectomy is curative, the result may only be palliative. The indications for total gastrectomy include the average carcinomas of the proximal and middle thirds of the stomach because of their wide lymphatic dissemination and the implication of a certain percentage of all the perigastric lymph nodes; carcinomas of such a size and location that they cannot be completely removed by subtotal resection of either the distal or proximal segment of the stomach; carcinomas of the diffusely invasive type; linitis plastica (cancer en curiasse); all superficial spreading mucosal cancers; carcinomas of the distal segment invading high along the lesser curvature or into the pars media; primary gastric lymphosarcoma; multiple diffuse polyposis en nappe.

Once the structures incorporated in the resected specimen are removed, the problem of restoration of gastrointestinal continuity is to be considered, utilizing one of the various methods of constructing substitutive stomachs. The most frequently employed method is an esophagojejunostomy, either with a simple terminolateral anastomosis of the esophagus to a jejunal loop, with or without a Braun supplementary enteroenterostomy, or utilizing the better method of Lima-Basto who constructs a large jejunal pouch by anastomosis of the ascending and descending jejunal limbs with transection and closure of the proximal jejunal limb and distal terminolateral jejunal anastomosis. Other interposition operations include the substitution of a limb of jejunum between the esophagus and duodenum or immobilized right colon, anastomosing the esophagus to the ileal stump, and the colon to the duodenum. It is claimed that these methods tend to lessen the frequency of the so-called "dumping" syndrome, although in some instances the onset of this distressing syndrome is only delayed.

### **Palliative Treatment of Gastric Cancer**

Short-circuiting procedures, such as gastroenterostomy for obstructing distal cancers or gastrostomy for cancers obstructing the esophageal cardiac orifice, are temporizing procedures that do not appreciably prolong life. Gastric cancers

are notoriously radioresistant in the majority of instances, but in a series of approximately 300 patients treated by megavoltage irradiation, the palliative end results have been quite effective in about 15 per cent of patients.

### End Results of the Surgical Treatment of Gastric Cancer

Operations in which all gross cancer could be removed were considered curative operations, i.e., operations performed with hope of cure. All operations in which gross cancer was left in situ were classified as noncurative operations. Approximately 10 per cent of patients were unsuitable for laparotomy exposure. At the present time, approximately 75 per cent of patients subjected to operation have resections of the stomach, either with the hope of cure or for palliative relief. Only 25 per cent have by-pass palliative operations.

The resectability of gastric cancers remains about equal for all age groups except the young, under forty years of age, and the very old, over eighty years. The presence of a palpable abdominal mass has prognostic significance inasmuch as operations designed for cure are feasible in approximately 50 per cent of patients in whom the mass is impalpable and in only 30 per cent of patients in whom the cancer can be palpated. As regards the influence of symptomatology on the prognosis, those patients experiencing the ulcer syndrome have the highest percentage of curability after resection, and those having chronic indigestion the lowest rate of cure. Cancers in the distal and medial segments of the stomach have a higher rate of salvage than those in the

proximal segment or those that are diffusely infiltrating. The polypoid and ulcerating cancers have a higher rate of curability—for example, 44.8 per cent and 45.5 per cent, respectively—than the infiltrating or ulcerating and infiltrating gastric cancers. The degree of anaplasia influences the prognosis: gastric cancers of Grade I have a 66.7 per cent five-year cure; those of Grade II, a 41.5 per cent rate; those of Grade III, a 23.9 per cent rate; and those of Grade IV, a 12.7 per cent rate. Patients with metastasis to regional lymph nodes proved microscopically have only a 12 to 15 per cent rate of cure, whereas those without metastasis to regional nodes may anticipate a 40 per cent chance of five-year survival without recurrence.

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# CHARACTERISTICS OF HOUSING FOR THE YUKON-KUSKOKWIM DELTA OF SOUTHEASTERN ALASKA

By Laurel M. Hammes, B.A.\*

Arctic Health Research Center, U. S. Public Health Service, Department of Health, Education, and Welfare  
Anchorage, Alaska, January 1965

## Background and Source of Data.

As a part of its epidemiological investigations staff, the Arctic Health Research Center of the U. S. Public Health Service has, since 1954, maintained a field research unit consisting of four nurses in the Bethel area of Southwestern Alaska. The major concern of the research unit has been in the field of tuberculosis control and prevention (1, 2), with additional studies of corneal scarring (3, 4), infant morbidity and mortality (5), and epidemiological investigations of communicable diseases being undertaken concurrently. These programs have been funded in part by the Bureau of Indian Affairs of the Department of Interior and the Division of Indian Health and the Tuberculosis Program of the Public Health Service.

The population under study includes the residents of 28 Eskimo villages located in Election Districts 16 (Bethel) and 24 (Wade-Hampton). This area roughly corresponds to the combined deltas of the Yukon and Kuskokwim Rivers—a flat, nearly treeless expanse of tundra, rivers and ponds. In 1960, community surveys of housing and other socio-economic variables were undertaken and completed in 24 of these villages. The 1960 village populations ranged from 28 to 460 with an average of 230 inhabitants (6). Nine hundred households with about 5,200 members, comprising 94 percent of the population in these villages, were surveyed. The information was collected by the field nurses through personal inspection of each dwelling and through interviews with adult members of each household. The primary purpose of this survey was to provide background data for the above mentioned studies. Although almost five years have elapsed since the collection of these data, no overall improvement in the status of housing has been noted in this area. There are individual exceptions, of course, and it is the general impression that there is a great deal of interest in improved housing, particularly among the younger people.



*Tin-clad frame dwelling in Kasigluk*

## HOUSEHOLD SIZE

Persons per household	Number of households
Total .....	902
1 person .....	27
2 persons .....	41
4 persons .....	107
5 persons .....	123
6 persons .....	138
7 persons .....	117
8 persons .....	94
9 persons .....	64
10 persons .....	28
11 persons .....	17
12 or more persons.....	12
Unknown* .....	57
Median household size.....	5.9

\*Includes households in a state of flux, i.e., splitting off or forming with probable composition unknown.

The typical household size is six persons. One-fourth have eight or more members. The median number of persons per housing unit for the total United States is 3.0 (7). This Eskimo group is highly fecund with a crude birth rate of 53 per 1,000 population, more than double the U. S. rate (5). Currently, 12 percent of these infants die during the first year of life.

\*Statistician, Arctic Health Research Center.  
Data were collected under the direction of Dr. Robert N. Philip, formerly Chief of the Epidemiology Section, Arctic Health Research Center.

### NUMBER OF ROOMS BY HOUSEHOLD SIZE

Household size	Number of rooms*					Percent 1 room
	Total	1 room	2 rooms	3 or more	Unknown	
Total.....	902	564	233	99	6	63
1-2 persons .....	68	50	13	4	1	75
3-4 persons .....	184	129	42	11	2	71
5-6 persons .....	261	167	66	27	1	64
7-8 persons .....	211	122	63	24	2	58
9 or more .....	121	58	36	27	..	48
Unknown .....	57	38	13	6	..	

\*Areas partially partitioned or curtained off were not considered to be separate rooms.

Two-thirds of the houses have only one room. Although the number of rooms shows some relationship to household size, half of the households with nine or more members live in one-room dwellings. On the average, there are 3.8 persons per room. For the U. S. as a whole, only 12 percent of the housing units have more than one person per room (7).

### VOLUME OF LIVING SPACE PER PERSON BY HOUSEHOLD SIZE

Household size	Total households	Volume per person (cu. ft.)					Unknown
		200 or less	201-300	301-400	401-500	501 and over	
Total .....	902	180	228	156	94	171	73
1-2 persons .....	68	1	3	5	5	52	2
3-4 persons .....	184	10	34	36	34	62	8
5-6 persons .....	261	49	83	54	37	35	3
7-8 persons .....	211	75	67	41	12	14	2
9 and over .....	121	45	41	20	6	8	1
Unknown .....	57	—	---	---	---	---	57

One-half of the households or about 2,800 persons live in dwellings providing 300 cubic feet or less space per person. To visualize this, we might think of an area of 45 square feet (9'x5') with a ceiling height of 6'8" for each person. This is not free space but contains furniture, heating and cooking equipment, and most of the family possessions and food supply, particularly if other storage is not available. While no published recommendations are available for adequate living space, one recent study attempting to relate spread of tuberculosis to environmental factors considers a volume of less than 600 cubic feet per person to be "very crowded" (8). This definition would include virtually all of the Eskimo households under study. As would be expected, the larger the size of the household, the greater the crowding. For dwellings housing 7 or more persons, the median living volume per person is less than 250 cubic feet.

### NUMBER OF BEDS BY HOUSEHOLD SIZE

Household size	Number of Beds						Unknown
	Total	One	Two	Three	Four	Five or more	
Total .....	901	101	332	297	100	59	13
1-2 persons .....	68	35	26	5	—	—	2
3-4 persons .....	184	23	106	44	5	2	4
5-6 persons .....	261	13	106	108	21	9	4
7-8 persons .....	211	7	52	84	46	20	2
9 and over .....	121	3	17	48	26	27	..
Unknown .....	57	20	25	8	2	1	1

The beds in this area are usually home-made wooden bunk-type bedsteads, often small by accepted standards. Averages tell us that these households have 2.7 beds per household or 2.2 persons per bed. In practice, this means a great deal of "doubling-up," with older children (and visitors) sleeping on the floor in sleeping bags or on piles of fur or quilts.



### TYPE OF MATERIAL

	Dwellings	
	No.	Percent
Total .....	902	100
Frame .....	555	62
Log .....	289	32
Sod .....	12	1
Other .....	29	3
Unknown .....	17	2

### TYPE OF FLOOR

	Dwellings	
	No.	Percent
Total .....	902	100
Dirt .....	6	1
Rough plank .....	365	41
Finished wood .....	146	16
Linoleum .....	320	36
Other .....	57	6
Unknown .....	8	1

The majority of dwellings are of frame construction, including planks, plywood, and various types of sheathing. Log houses are prevalent where this material is available. Floors are generally of rough plank, sometimes covered with linoleum.

The 1960 U. S. Census of Housing indicates that of the total housing units in the two election districts where the study villages are located, only 26 per cent are "sound," 41 percent are deteriorating and 33 percent are dilapidated (7).

### SANITARY FACILITIES

	Dwellings	
	Number	Percent
Total .....	902	100
Bucket .....	773	86
Privy .....	87	10
Toilet .....	17	2
Unknown .....	25	3

Sanitary facilities are also practically non-existent. Recently several community programs have been undertaken by PHS, providing materials and assistance in the construction of privies for each household.

### AVAILABILITY OF ELECTRIC POWER

	Number of dwellings	
		Percent
Total .....	902	100
Electricity available inside house .....	513	57
No electricity .....	371	41
Unknown .....	18	2

The fact that over half of the dwellings have electricity available may be misleading since this does **not** mean full-time community power with the exception of a few villages. In some instances, the church or store will sell power to a portion of the community. For the most part, however, electricity is supplied by small gasoline generators owned by single families or small groups (9). It is logical to surmise that under this arrangement, power would be produced only during certain hours of the day and that there would be periods completely without power due to breakdown, or because of high cost and limited availability of gasoline. The people are interested in obtaining power and it is probable that now even a higher proportion are using electricity to some degree than during the survey period.

### SOURCE OF HEAT

	Number of dwellings	
		Percent
Total .....	902	100
Wood stove exclusively....	657	73
Wood stove supplemented with oil heater .....	55	6
Oil heater exclusively....	90	10
Other .....	16	2
Unknown .....	84	9

Heat is furnished by a wood stove in the majority of the dwellings. The same stove is usually used for cooking purposes, sometimes supplemented by a camp stove or range. In view of the scarcity of timber of any size in this region, wood gathering becomes a major activity.

Only 32 of the households reported exclusive use of well water and then only for the summer months. Surface sources of water are used almost exclusively in this area. These include rivers, lakes, sloughs, etc., and melted ice and snow in the winter. Since the survey, several community wells have been drilled under programs of BIA and PHS. However, none of the houses have piped running water.



## SUMMARY

In summary, we can describe the "typical" household based upon median or average values from the foregoing data. It should be kept in mind that half of the population of this area live under these or poorer conditions.

The "typical" household consists of six persons, usually parents and their children and frequently another adult relative (grandparent, aunt or uncle). Their frame house consists of one room with an enclosed entryway which serves as a storage area for heavy clothing and equipment. The dimensions of the room are 15' by 18' or 270 sq. ft. of floor space with a ceiling height of 6' 8". The floor is of rough plank. A cast iron wood stove is used for heat and cooking purposes. The fire is usually allowed to die at night with the temperature occasionally dropping below the freezing mark. During the winter, it is sometimes necessary for the head of the household to travel as far as 20 miles by dog sled to find an adequate

supply of wood. A lone 60-watt light bulb suspended from the ceiling and several small appliances testify that this family and several neighbors have banded together to buy and operate a small gasoline generator. The presence of gas lanterns around the room is mute evidence of the "on-again off-again" nature of this operation.

Water is carried from the slough some fifty yards away and is rarely either boiled or chlorinated. During the winter, the water supply consists of blocks of ice cut from the slough and melted on the stove. A five gallon gas can kept in the entryway is used for human waste. It is sometimes emptied in the river at the end of the village but usually just outside the door on the ground.

This typifies the standard of subsistence for several thousand of our native peoples living in a remote area of Alaska.



*Rainwater collection*



*Dishwashing—note pail of melting snow*

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# Editorial Page . . .

## "THE GREAT SOCIETY"

An interesting group of apparently unconnected statistics are here cited from the various articles in this issue of ALASKA MEDICINE:

1) With 1,666 acres per person in Alaska, over half of the native dwellings in the Yukon-Kuskokwim area provide less than 300 cubic feet per person of living space.

2) This Eskimo group has a crude birthrate of 53 per thousand—more than double the overall U.S. rate.

3) Although less than a fifth of the population of Alaska is native, this native group accounted for over three-fourths of the new cases of active tuberculosis in Alaska in 1964 with a case rate of about 25 times that of the U.S. as a whole.

4) Although only one out of eleven reported cases of tuberculus meningitis at Mt. Edgecumbe died, half of the survivors were left with neurological residue of unspecified extent.

Reading between the lines, the picture presented of the living conditions of the Alaskan native is neither very pretty nor very conducive to good health, and yet their mere maintenance in these living conditions is a very costly proposition to the taxpayer. With the stated aim of raising the health standard of the Native to that of the average white U.S. citizen, the USPHS has set up

a system of free medical care which provides approximately one hospital bed for every 30 Alaskan Native beneficiaries (as compared to one bed for approximately 500 white civilians). Above and beyond the expenditures on nine USPHS hospitals and their staffs and on the programs of the Bureau of Indian Affairs, service to the Natives involves considerable expenditure at the State level with this fifth of Alaska's population utilizing approximately two-thirds of the MCH-CCS funds, more than three-fourths of the Welfare funds, and a similar percentage of the Mental Health funds.

This editorial is not intended to give an answer to these problems, but rather to present some facts and some speculations as to what the end result to the taxpayer will be if the birthrate of this group continues at its present rate with no improvement in the crowded living conditions, and if diligent medical services continue to preserve the lives of the mentally and physically impaired with no provision for the control of their fertility.

As admirable as a direct service medical program is, perhaps we are presented here with staggering socio-economic problems that must be faced before the eradication of tuberculosis, middle ear disease, diarrhea or any of the other health scourges of the native people can even be considered.

# TUBERCULOSIS IN ALASKA IN 1965

*By Robert I. Fraser, M.D.*

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In the past decade and a half, Alaska has witnessed an epidemic of tuberculosis rare in the history of recorded medicine.

Tuberculosis has in the past been an epidemic disease within the Alaskan Indian and Eskimo population and a disease of considerable numerical significance among the remainder of the citizens. The basic reasons for the disease to develop to such proportions were a susceptible population with relatively recently introduced disease, combined with factors of crowded housing, borderline nutrition and a delay in the introduction of Public Health control measures precipitated by the difficulties of transportation and communication and World War II. Since World War II, an extensive case finding and treatment program by the Territory, now State, with the United States Public Health Service and physicians, has resulted in dramatic improvement in the incidence and mortality from this disease.

The changing complexion of tuberculosis in Alaska presents challenges to the private physician, the United States Public Health Service and the State Unit of Tuberculosis Control.

No longer are young children and infants dying in communities each week and the deforming tuberculosis of spine, knees and other joints is seen less frequently. Mothers, fathers, brothers, sisters, aunts, uncles, are less often hospitalized for months and years with tuberculosis. The problem in 1965 is that of an increasingly apathetic population, apathetic toward the problem of tuberculosis, accentuated by the disappearance of the dramatic cases of disease and deaths from the communities and the appearance of a new generation not exposed to the epidemic situation. As the program gradually changes from a concept of recognition of large numbers of cases of active disease with subsequent hospitalization and adequate treatment, to a program with more concentration on recognition of minimal disease and early detection of breakdown of previously treat-



*Dr. Fraser*

ed disease promptly, with the intent of detection of disease before spread to others has occurred, we begin to embark on a tuberculosis elimination concept.

With a small population, fairly well compartmentalized in small groups, tuberculosis elimination becomes a very feasible and realistic goal in Alaska in the next two generations. In November, 1959, the historic Arden House Conference took place. There, a group of National leaders of Public Health and Tuberculosis Control concluded that the time was ripe to push for the elimination of tuberculosis in the United States. This Conference, realizing that this ultimate result was not possible in the next ten years, called for the establishment of goals en route to the end goal and recommended that goals be established by the National Tuberculosis Association and the United States Public Health Service together. The realistic goal set for the Nation as a whole is a new active case rate by 1970 of not more than ten new cases of tuberculosis per 100,000 population. As a reflection of effectiveness of the tuberculosis elimination program a second goal was established, the control of spread of tuberculosis infection to the point where not more than 1 per cent of 14-year-olds react to tuberculin. As guide lines in ob-



taining these goals, program performance standards were developed to aid State Health Departments, Community Health Services, and individual physicians in evaluating the adequacy of the tuberculosis program. These guides were not to apply to individual cases but to overall tuberculosis programs.

CASE DETECTION

- 1. All persons with an X-ray reading of tuberculosis or suspected tuberculosis, who are not known to be under current supervision, should be referred for diagnosis, and a definite diagnosis should be made and reported.

STANDARD: The Health Department should obtain a satisfactory report on at least 75 per cent of the referred tuberculosis suspects within six months after the end of the initial screening operations.

- 2. In tuberculin testing programs, all newly discovered tuberculin reactors need a chest X-ray examination.

STANDARD: Within two months of the end of a tuberculin survey, at least 90 per cent of the tuberculin reactors should receive a chest X-ray examination.

- 3. All close contacts to newly discovered active cases need to be examined promptly, either by a tuberculin test followed by a chest X-ray for reactors or by an X-ray initially.

STANDARD: Such examinations should be accomplished for 90 per cent of the close contacts of the new active cases reported during a calendar year, by January 31 of the following year.

SERVICES TO PATIENTS WITH ACTIVE TUBERCULOSIS

- 4. The conversion of patients' bacteriological status from positive to negative as soon as possible after diagnosis is of primary importance in tuberculosis control.

STANDARD: At least 75 per cent of the newly reported active cases with positive bacteriological findings should have converted to a negative bacteriological status within six months from the date of the new case report.

This standard applies not only to patients initially reported to have positive bacteriological findings but also to those whose subsequent reports indicate that they were positive at the time of the initial case report.

- 5. ALL PATIENTS WITH ACTIVE TUBERCULOSIS NEED TO BE UNDER TREATMENT. STANDARD: At any given time, at least 90 per cent of all the known active cases should be in the hospital or under drug treatment elsewhere.

An unhospitalized patient can be considered to be under drug treatment if there is a record in the health department, not more than three months old, that drugs are prescribed, and there is no record that he is refusing treatment.

- 6. ALL PATIENTS WHO HAVE ACTIVE DISEASE NEED PERIODIC BACTERIOLOGICAL EXAMINATIONS.

STANDARD: At any given time, at least 80 per cent of all cases at home with active disease at last report should have had a bacteriological examination within the preceding six months.

From Chart No. 1, it is obvious that in Alaska we will probably be unable to reach the goal set for 1970, of ten new cases per 100,000, but certainly the next five years should see considerable improvement in the incidence figures.

CHART NO. 1

NEW ACTIVE AND PROBABLY ACTIVE CASES AND CASE RATES, ALASKA AND U.S. 1952 - 1964

Year	Alaska All Races Number	Alaska Native Number	Alaska All Races Rate	Alaska Native Rate	U.S. Rate
1952	743	649	378.5	1854.3	55.0
1953	622	533	293.4	1480.5	53.0
1954	760	651	348.6	1759.4	49.3
1955	661	585	299.1	1539.4	46.9
1956	595	500	270.5	1282.0	41.6
1957	431	369	189.0	922.5	39.2
1958	429	367	120.2	895.1	36.5
1959	356	299	161.8	719.2	32.5
1960	224	188	98.2	413.9	30.8
1961	255	193	108.1	438.6	29.4
1962	323	260	135.5	577.7	28.7
1963	424	336	172.3	730.4	
1964	414	329	165.6	700.0	

Rate per 100,000 population. Alaska rates compiled by TB CONTROL UNIT, ALASKA DEPARTMENT OF HEALTH AND WELFARE, using ADH Vital Statistics population estimates for Alaska (All Races) and Tuberculosis Control Unit's for Alaska Native Race.

Alaska and U.S. Rates can be compared through 1960. Following this period, reporting criteria changed; however, in order to show the recent upward trend in Alaskan rates, the 1960 criteria have been continued for Alaska's rates.

## CHART NO. 2

Percent distribution by extent of disease, with extent specified, of new active pulmonary tuberculosis cases by State, 1962, for the ten States with the highest incidence rates.

	Total	Minimal	Moderately Advanced	Far Advanced
Alaska .....	100.0	44.4	42.6	13.0
Nevada .....	100.0	10.7	34.7	54.6
Arizona .....	100.0	15.9	37.9	46.2
Tennessee .....	100.0	23.4	50.2	26.4
Kentucky .....	100.0	13.5	46.2	40.3
Georgia .....	100.0	14.9	41.4	43.7
Maryland .....	100.0	19.3	43.0	37.7
Illinois .....	100.0	19.6	48.4	32.0
Delaware .....	100.0	14.3	42.1	43.6
New York .....	100.0	20.2	45.1	34.7

Chart No. 2, demonstrates that the control efforts of Alaska in detecting minimal cases has, in the past, been relatively good in comparison with other States, and that expansion of the Tuberculosis Control program to comply with the standards of performance recommended by the National Tuberculosis Association and the United States Public Health Service, should be very feasible.

1965 in Alaska seems a good time to begin consideration of a program directed toward ultimate tuberculosis elimination. The State Unit of Tuberculosis Control envisions development of a program somewhat as follows:

1. Continuation of tuberculin skin testing of the school population. This technique has become increasingly important in detecting new primary disease and in directing case finding efforts to household members and contacts. In this program the State has been satisfied that utilization of the Tine testing method is more simple for the Public Health nurses who are not doing full time skin testing and sufficiently comparable with the intermediate PPD to justify its continued utilization. Questionable results will of course be rechecked, using intermediate PPD.

2. Continuation of mass x-ray surveys in the high incidence areas for at least the next decade, including predominantly Eskimo and Indian com-

munities with a high incidence of previous disease by history and x-ray scars. It is felt that this program is necessary to detect breakdown among patients with inactive disease as well as helping to identify new cases.

3. Continuation of the x-ray programs involving high risk groups, such as jail prisoners and groups exemplified by food handlers who represent a risk to the community at large.

4. Adequate orientation and motivation of the Public Health Nurses and allied staffs in the tuberculosis program. This guidance and instruction will be mediated through an occasional State-wide Tuberculosis Seminar and small group meetings and lectures which will be organized and conducted by the Tuberculosis Nursing Consultant and the Chief of the Unit of Tuberculosis Control.

5. The extension of preventive treatment. Preventive treatment: ("disease prophylaxis," "secondary chemoprophylaxis") of tuberculosis can be defined as an attempt to reduce the risk of development of active disease in persons infected with tubercle bacilli by the administration of specific antituberculous drugs. Preventive treatment should be distinguished from a situation in which antituberculous drugs are administered to tuberculin negative persons unavoidably exposed to a known potent source of tuberculosis infection. This is designated "primary chemoprophylaxis" or "infection prophylaxis." Preventive treatment within the limitations of supervisory capacity seems most strongly indicated in the following groups of patients:

- A. Those patients who, while superficially fulfilling the criteria of inactive status, show slight progressive x-ray changes, frequently not perceptible in consecutive annual films, but obvious on those obtained at longer periods when compared serially. Adequate chemotherapy should invariably be given to these patients.

- B. Patients with prolonged history of tuberculosis at one or two sites, who have never been treated adequately with antituberculosis drugs, have a high risk of reactivation and should be treated.

- C. Tuberculin convertors in infancy. Primary tuberculosis infection is particularly dangerous in infancy when the danger of hematogenous spread with meningeal and military tuberculosis is an important risk. Primary tuberculous infection is also extremely dangerous in adolescents



and young adults, who are particularly likely to develop progressive pulmonary disease. In children between the age of four and puberty, the risk coincident with primary infection and tuberculin conversion is less great but real, so that in all of these categories of patients, treatment with at least one year of INH therapy is strongly recommended.

D. There are other conditions which predispose people harboring tubercle bacilli to develop active disease and warrant consideration of preventive treatment:

a) Tuberculin reactors who are receiving prolonged corticosteroids, who are suffering from severe diabetes, or who have undergone, or about to undergo gastric resection.

b) Silicosis: Tuberculosis is recognized as a frequent complication of silicosis so that all tuberculin-positive silicotics should receive indefinite INH Therapy.

c) Pregnant women with inactive tuberculosis are considered at risk by many tuberculosis authorities and it is recommended, because of the abnormal physiologic stress that INH be administered in the last trimester of pregnancy and continued for three to six months following delivery.

d) Since measles or whooping cough and possibly measles vaccination may precipitate the development of active tuberculosis in tuberculin positive children, INH is recommended in tuberculin positive children developing measles or having measles vaccine, for six months to one year.

6. Utilization of prophylactic chemotherapy in the prevention of the development of new cases of tuberculosis among household contacts of patients with active disease.

7. Since the Tuberculosis Bacteriology Laboratory service is of prime and increasing importance in case finding and evaluation of suspects, a continued effort is being made to upgrade the State Laboratory services. The introduction of 7-H-10 culture technique early in 1965 will make culture reports available in three weeks to the clinicians. Routine sensitivity studies, it is hoped, will be available in the Spring of 1965.

8. The Tuberculosis Control Unit of the State of Alaska will continue the service of reporting and reviewing chest x-rays forwarded to its facility by private practitioners and Public Health Service field physicians. It is hoped and

expected that these reports will be available within a week after their being received in Anchorage. The Chief of the Unit of Tuberculosis Control Unit is willing to offer consultation on tuberculosis problems to any private physician within the State.

9. With the danger of developing population apathy toward tuberculosis, methods of Health Education directed toward the high risk and high incidence groups will be explored by the Tuberculosis Control Unit and its cooperating agencies.

1. Inasmuch as the role of the tuberculin test is of prime importance in studying the school and pre-school population, and represents an important fulcrum in the tuberculosis control effort, and furthermore as the incidence of tuberculosis has shown dramatic decrease within Alaska, consideration is not planned for the introduction of BCG vaccination in the pre-school or school children. Since, however, the post school population is not readily accessible to a Tuberculin Survey program, and in view of the dramatic results of the British Medical Council BCG project in this age group population, consideration will be given toward BCG vaccination for tuberculin negative members of high incidence population groups at the time of their leaving school, either the 8th grade or graduation from high school. It should be emphasized that this program is under consideration and that no final conclusions have been arrived at.

In conclusion, the Tuberculosis Control Unit for the State of Alaska, believes that tuberculosis elimination in Alaska is possible with the coordination of efforts of private physicians, the United States Public Health Service, and the State Unit of Tuberculosis Control, by utilizing medical knowledge and laboratory techniques presently available. This paper presents the State Unit of Tuberculosis Control concept of the future tuberculosis program in Alaska.

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# TUBERCULOSIS MENINGITIS AMONG ALASKAN NATIVES

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The present report concerns the eleven cases of TB meningitis treated at the Mt. Edgecumbe Alaska Native Health Service Hospital from the years 1953 through 1963. The time period under study was one in which all three of the primary anti-tubercular drugs (INH, PAS, and Streptomycin) were available.

## METHODS

The TB meningitis cases were found by reviewing the Mt. Edgecumbe Hospital charts from 1953 through 1963 which had been coded by the Standard Nomenclature method as any of various forms of TB meningitis. All the available recorded medical information concerning the eleven TB meningitis patients was reviewed and the findings tabulated in regard to the various aspects of presenting symptoms, past history, physical findings, laboratory values, clinical course, therapy and end results in terms of morbidity and mortality.

## RESULTS

The details of the initial symptoms were available for ten of the eleven cases and these symptoms were in the order of decreasing frequency as follows: fever—6; vomiting—6; weight loss—4; apathy—3; anorexia—3; irritability—3; headaches—3; photophobia—3; gradual onset of coma—2; episodes of sudden unconsciousness—2; convulsions—2; URI—1; abdominal pain—1.

There was only one difference in the initial symptomatology of the four patients fifteen years of age and older from that of the younger patients. In the older group, two members' initial symptoms consisted only of one or more episodes of sudden unconsciousness.

Patient histories revealed that the median age on admission was four years and that four patients were fifteen years of age or older with the oldest being fifty-two. Six of the eleven patients were Eskimos from Northern Alaska, the other five were Indians from Southeast Alaska in the area of the Mt. Edgecumbe Hospital. Six were females, five were males. Six of the eleven patients had other members of their immediate families who had had active pulmonary TB some-

time prior to or coincident with the patient's TB meningitis.

Four of the eleven patients were found to have active pulmonary tuberculosis at the time TB meningitis was discovered. Three of these four patients had been previously diagnosed as having pulmonary TB and were on anti-tuberculosis drugs at the time the TB meningitis became manifest. The frequency with which these three took their medications is open to some question.

Physical finding on admission revealed seven of the eleven to have signs of CNS irritability consisting of nuchal rigidity. Two of the patients entered in a coma.

Laboratory results revealed acid fast bacilli in the CSF by smear or culture technique in only two of the eleven patients and none of the patients had demonstrable bacteria in the CSF. The appearance of the CSF was cloudy in five of the nine patients where the CSF appearance was described. Three of the nine fluids had pellicle formation.

Five of the eleven patients had initial cell counts of the CSF which were predominantly polymorphonuclear cells. Five patients had predominantly lymphocytic CSF cell counts. One patient who had a tuberculoma had a normal cell count of the CSF.

Two of ten patients with recorded initial CSF sugar determinations had low values. Seven of the eleven patients underwent examinations of their CSF for chloride levels and five of the seven patients were found to have low values. Seven of the eleven patients had CSF pressures determined on admission and two showed abnormal pressure elevation. Eight of the ten patients with recorded CSF protein determinations had elevated values.

Only one of the eleven patients had a normal chest film on admission. Of the other ten, four had healed TB lesions, four had active TB lesions, and two had bacterial lung disease. None had evidence of miliary TB by chest film.

Sputa or gastric AFB determinations were done on seven of the eleven patients and were positive for two patients. Diagnosis of TB menin-



gitis was made on the finding of AFB in the spinal fluid in two cases and the others had the diagnosis made on the basis of a combination of laboratory and clinical findings.

The clinical course was marked by institution of therapy within an average 24 days after the onset of symptoms. In this series, five of the eleven cases received bacterial antibiotics other than Streptomycin and in addition to anti-tubercular treatment. The bacterial antibiotics were given for intercurrent diseases and/or because of the uncertainty of the diagnosis of TB meningitis. Four of the patients received systemic steroids in addition to triple anti-tubercular therapy and three of these four had serious neurologic residuals when the active disease process was over. One patient received intrathecal Streptomycin in addition to systemic triple therapy; however, this form of therapy was discontinued early in the patient's hospital course because the patient went into a coma which was felt by the patient's physician to have been precipitated by the intrathecal Streptomycin. None of the other patients received any form of intrathecal therapy. Nine of the patients received at least triple systemic treatment employing INH, PAS and Streptomycin and the other two received only a combination of Streptomycin and PAS and one of these two died as a result of the late complication of hydrocephalus. The development of serious neurologic sequelae did not appear to be related to the promptness of the initiation of therapy. Two of the five patients with subsequent residua had the institution of therapy after a shorter than average time from the onset of symptoms. One patient's onset of symptoms could not be dated and two of the five patients with subsequent residua had longer than average time between onset of symptoms and treatment. The time from the institution of therapy to the remission of the patient's symptoms and signs was quite variable and frequently consumed one or more months.

The time necessary for the return of CSF protein, cells and sugar values to normal limits was quite variable and often lasted up to several months.

One of the patients died as a result of TB meningitis with secondary hydrocephalus. Five of the other patients had severe neurologic sequelae. Two of these five patients including the patient with presumed tuberculoma had grand mal epilepsy and two patients had spastic paralysis of one or more limbs. One had residual ataxia.

Means for psychological evaluation were not readily available and none of the patients had extensive psychologic evaluation either before or after their illness.

## COMMENTS

The incidence of the various initial symptoms of the eleven patients agrees generally with published reports.<sup>3</sup> The median patient age on admission of four years further confirms the idea that TB meningitis is primarily a pediatric disease.<sup>4a</sup> However, one of our patients was fifty-two years old on admission and three others were fifteen years old or older. The fact that many of the patients had family members with pulmonary tuberculosis represents in part the fact that there is a high incidence of TB among Alaskan natives<sup>5</sup> and is also of interest from the standpoint of current methods of case finding which involves screening the relatives of persons with TB and also screening close associates of children with recent tuberculin skin test conversion. Several of the patients were Eskimos from Northern Alaska since at the time of the beginning of the period of study, the Mt. Edgecumbe Hospital was the prime center for referral for all Alaska natives. Since that time the hospital's responsibilities have been concentrated in the geographic region of the hospital itself which now encompasses an area of 35,000 square miles with a native population of 12,000. Ten years ago, as now, patients often received their initial medical evaluation and treatment at various field stations before transfer to Mt. Edgecumbe Hospital.

It is of interest that three of the patients developed TB meningitis in spite of taking anti-tuberculosis therapy for pulmonary TB immediately prior to the development of meningeal symptoms. Review of the literature indicates that this is an uncommon occurrence.<sup>4b</sup> Perhaps our three cases represent the result of inadequate therapy since they were taking anti-TB therapy at home and were not under continual medical observation. One patient who was hospitalized was known to have had interruptions of her TB therapy.

The finding of AFB in the CSF of only two of the eleven patients is consistent with at least one other reported series where only 16% of the initial spinal fluids in a series of cases of TB meningitis were found to contain demonstrable AFB.<sup>6</sup> There is one series which reports a 91% recovery of AFB from the CSF of TB meningitis patients.<sup>7</sup>

Only three of the eleven had skull films taken and one of these showed findings consistent with the diagnosis of tuberculoma.

There is a current opinion that TB meningitis is an extension of a local lesion of the structures of the head rather than a direct infection of the meninges.<sup>4c</sup> Certainly all cerebral tuberculomas will not extend to the meninges as was shown by a Canadian series describing forty-nine cases of tuberculoma in Canadian Indians and Eskimos. Thirty-six of these had no previous meningitis history.<sup>8</sup> When TB infection of the meninges does take place, acute phase and serial post convalescent skull films would appear to be indicated as part of a general evaluation. It would also appear that all TB meningitis patients should have sputum or gastric fluid specimens examined for AFB as well as routine CSF and hematologic studies, PPD skin testing and chest x-rays.

Lincoln found that in a series of cases of TB meningitis in New York the average time from the onset of symptoms to death in untreated cases was nineteen and one half days.<sup>4b</sup> Our series noted that the average time from the beginning of symptoms to the beginning of treatment was 24 days and three patients had intervals of three weeks or more. Still, there was only one death in our series and in this case the time from the onset of symptoms to the beginning of treatment was unknown. Also as mentioned, in this small series the length of time between the onset of symptoms and treatment did not appear to be directly related to the development of neurologic residuals.

The small number of patients in this series plus the lack of control precludes any conclusions as to the relative effectiveness of the various forms of treatment used. The use of steroids in this series did not produce any obvious benefit in therapeutic response and, indeed, the use of steroids in this disease is a matter of current debate.<sup>9a10</sup> Our series involved the use of triple anti-tubercular therapy in the majority of cases (nine of eleven). Our results were reflected in a rate of residual morbidity (five of eleven) and mortality (one of eleven) which is in keeping with current reported series.<sup>10</sup>

## SUMMARY

Eleven cases of TB meningitis seen at the Mt. Edgecumbe Alaska Native Health Service Hospital in the ten year period 1953 through 1963 were reviewed and comments were made regarding various aspects of the patient's presenting symptoms, past histories, physical findings, laboratory values, clinical course, therapy, and end results in terms of mortality and morbidity.

Perhaps the point that most needs emphasis in the treatment of TB meningitis is that treatment must be begun promptly when the presumptive diagnosis of TB meningitis is made. Therapy diagnosis is made on the basis of history, physical findings and spinal fluid examination. Therapy generally will consist of a combination of long term INH, PAS and Streptomycin. The use of steroids in TB meningitis is a subject of current debate and intrathecal therapy at the present time is rarely used. Periodic post discharge followup observation of the patient is advisable.

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# President's Page . . .

**JOSEPH B. DEISHER, M.D., President, Alaska State Medical Association**

21 January 1965

Robert Wilkins, M.D. Secretary  
Alaska State Medical Association  
718 K  
Anchorage, Alaska

Dear Bob:

With this letter I am tendering my resignation as President of the Alaska State Medical Association to become effective on February 24, 1965. I regret the necessity of this action, but I have accepted a position as a District Medical Officer in the Trust Territory of the Pacific Islands. My address after March 15, 1965 will be: c/o Trust Territory Government, Majuro, Marshall Islands, 96960.

I am not insensitive to the honor of the position of President of the Association and I am sorry not to have been able to complete my term. Negotiations for my new job began prior to the Good Friday Earthquake, but the prospect of employment during the year to follow was portrayed to be quite dim. For this reason, and after consultation with friends whom I consider to possess competent judgment I accepted the honor and responsibility inherent to the Presidency. When the position in the Trust Territory became unexpectedly available, I accepted it because of my long-felt need for a change of scene and pace.

During my nine months as the head of the Alaska State Medical Association I have done my best to lay the ground work for good committee organization which can be carried on by my successor. It has been my hope that by proceeding at a deliberate pace and enlisting the interest of active members of the Association in committee work, the maturity of our organization could be hastened. There has not been time enough for this to occur but I am sure that if the membership, individually and collectively, will give their

new leader true cooperation the Association can finally begin to function in several ways as a mature state medical association may be expected to do. No one man or three men or five men can carry the multifarious responsibilities of the entire medical profession of the State of Alaska. The majority of the members of the group must learn to accept their obligations as physicians to their profession and to their society as a whole. I pray that this will come to pass without much further delay.

My plan is to return to my practice in Seward after two years in the South Pacific. At that time my services, such as they are, will be available to whoever heads our group.

My request at leaving the Presidency at this juncture is mitigated by my knowledge of the capacity of Royce Morgan to organize and to lead his fellow-physicians. It is with wishes for the greatest of success that I pass the gavel to him.

Sincerely yours,

J. B. Deisher, M.D.

## 1965 ASMA CONVENTION

### PLACE

University of Alaska  
College, Alaska

### DATES

May 26, 27, 28, 29, 1965

# MUKTUK MORSELS

A COLUMN DEVOTED TO  
MEDICAL NEWS IN ALASKA

Compiled by  
**HELEN S. WHALEY, M.D.**

**GENERAL:** Several excellent postgraduate sessions have taken place recently, most outstanding was the Lederle Symposium. In addition, a session on Frostbite was held in March in conjunction with the Armed Forces by Dr. William J. Mills, Jr., and Dr. Robert Whaley.

As in previous years, the Lederle Symposium on Clinical Medicine was held at the Anchorage-Westward Hotel during the final weekend of Fur Rendezvous in late February. Guest speakers were: Dr. Francis M. Forster, Professor and Chairman of the Department of Neurology of the University of Wisconsin who lectured on Diagnosis of Epilepsy and Management of the Epileptic Patient; Dr. Arno G. Motulsky, Professor of Medicine and Genetics, University of Washington School of Medicine who spoke on Genetics in Medical Practice and Diagnosis and Management of Treatable and Preventable Genetic Disease; and Dr. Stanley L. Wallace, Associate Clinical Professor of Medicine, State University of New York, lecturing on What Is Arthritis? and Management of Arthritis. Physicians attending the symposium included Drs. William Whitehead and John J. Dalton from Juneau, Drs. John and Jean Chapman from Cordova, Dr. Jean Arnold from Fairbanks, Dr. John Fenger from Homer, Dr. Elmer Gaede from Soldatna, and Dr. Harriet Jackson Schirmer from Bethel. Plans for another Lederle Symposium in 1966 are already being formulated by a committee from the Anchorage Medical Society which includes Dr. Rodman Wilson, Chairman, Dr. Louise Ormond and Dr. Michael Hein.

Three psychiatrists from the Department of Psychiatry of the University of Utah, Drs. C. H. Hardin Branch, Eugene L. Bliss, and Herbert B.

Fowler, who were enroute to Anchorage in 1964 when the Good Friday Earthquake occurred and were diverted in mid-air back home, defied superstition to return on March 27, 1965, the first anniversary of the quake, to present the long postponed WICHE sponsored Seminar on Psychiatric Techniques for the Practising Physician. The sessions were held at the Anchorage-Westward Hotel and included the following discussion topics: The Worried Parent, Depression and Suicide, Drugs in the Management of Patients with Emotional and Mental Problems, Emotional Problems in Physical Disease, Anxiety and its Importance to Psychiatric-Medical Problems, and Adolescent Behavior Problems.

Currently, Dr. William Rader and Dr. J. Ray Langdon are having a two hour discussion period weekly with a group of Anchorage physicians about commonly met psychiatric problems in the average physicians office. These sessions are being sponsored by the Western Interstate Commission on Higher Education (WICHE). These have been organized through Dr. Nancy Sydnam.

A Seminar on Learning Problems of the Handicapped Child is tentatively being planned for Anchorage June 10-12 under the joint sponsorship of the Alaska Crippled Children's Association, the National Foundation and the Alaska Department of Health.

The American Cancer Society, Alaska Division, announces that the dentists of Alaska will be opening their offices for another free Oral Cancer Day examination on April 29, from 9 a.m. to 5 p.m. Last year one cancer and 92 pre-cancerous lesions were discovered on Oral Cancer Day.



## LOCAL NEWS

**KETCHIKAN:** Dr. James A. Mortensen has started solo practice in a suite in the Wintgren Court Apartments. He is 34 years old, married, and has two children, Julie 12 and Joe 11. He completed high school in Petersburg, Alaska, graduated from the University of Oregon Medical School in 1963 and interned at Providence Hospital in Portland.

Dr. Ralph W. Carr, after 25 years of doing physical examinations for the National Guard, was presented over the local TV-station with a certificate of merit.

Dr. James Wilson and his brother Dr. A. N. Wilson Jr. were carried by helicopter to the scene of the Granduc mine disaster near Stewart, B.C. in mid-February and were responsible for the medical care of the mine worker who survived burial under the avalanche for approximately 77 hours. Dr. William Mills flew to Ketchikan to consult on the frost bite treatment.

**PALMER:** Dr. Walter Cunningham is the new President of the Staff of the Valley Presbyterian Hospital.

**CORDOVA:** Doctors Chapman plan to leave Cordova sometime during the summer of 1965 to return probably to UCLA in Los Angeles to take pathology residencies. Dr. Jean was recently one of the judges for the Miss Anchorage beauty contest in conjunction with the Fur Rendezvous. Dr. Joseph Shelton hold an Eye and T & A Clinic in Cordova during the week of March 22nd.

Dr. J. Donald Brown, formerly of Cordova, writes that he has accepted a residency in plastic surgery at the Columbia-Presbyterian Medical Center in New York City for two years starting July 1, 1965. He plans to return to Anchorage in July of 1967 to practice plastic surgery and in the meantime invites anyone coming to the New York Worlds Fair to look him up at 366 Melrose Ave., South Orange, New Jersey.

**SEWARD:** Dr. Joseph Deisher left Seward in mid-February for the Marshall Islands where he plans to remain two years and possibly return to Seward. Dr. Gentles is serving as the sole physician for this community, which is currently booming with post earthquake reconstruction.

**HOMER:** Dr. John Fenger after ten years of practice in Homer is leaving for an indefinite period to serve as a contract physician on another South Sea Island, several hundred miles from Dr.

Deisher. This will leave Homer without a physician, although Dr. Fenger has made every effort to get a replacement.

**ANCHORAGE:** Many Anchorage surgeons attended the recent American College of Surgeons regional meeting in Seattle including Drs. Perry Mead, Theodore Shohl, Michael Hein, and Francis Phillips. Dr. Phillips gave a paper on chest disease in Alaska. Dr. John Tower attended the Northwest Pediatric Academy meeting in Seattle as the state chairman and then attended sessions of the North Pacific Pediatric Society. Dr. Peter Koeniger plans to attend a medical meeting in San Francisco and then in Hawaii during April. Dr. Thomas Kiester recently became a diplomate of the Boards of Orthopedic Surgery. Dr. Howard Romig was reappointed to the State Board of Fish and Game and Dr. R. W. Sutherland to the Board of Sciences. Mr. Sam Potter, prominent Anchorage pharmacist, was appointed to the Pharmacy Board.

Hospital and Medical Society officials for 1965-66 include Dr. Theodore Shohl, Chief of Staff at Providence Hospital, with Dr. J. Ray Langdon, President-Elect; Dr. Lester H. Margetts, President of the Anchorage Medical Society, with Dr. Theodore Shohl, President-Elect, and Dr. Gilbert P. Blankinship, Sec.-Treasurer, and Dr. Vernon Cates, Chief of Staff of Presbyterian Hospital.

In March Dr. Rodman Wilson attended meetings of the American College of Physicians in Chicago and the Drs. Hillman (Hillman and Ormond that is) vacationed in Japan.

**U.S.P.H.S. News:** Dr. Jacob Brody, who has been very active as Chief of Epidemiology at the Arctic Health Research Center, with considerable research in various viral diseases and enteric diseases in isolated communities has been appointed Chief of the Epidemiological Section at the National Institute of Health, Division of Neurological Diseases, Blindness and Mental Health. He has had many articles published recently in a number of pediatric journals and the JAMA.

Construction of a new three million dollar Arctic Health Research Center at the University of Alaska is to begin in the summer of 1965 in Fairbanks. This will include a 40,000 square foot concrete laboratory building.

Dr. George Sperry who has served as Chief of Pediatrics at the ANS Hospital, Anchorage for the past three years, will join the Mayo Hospital staff as a Pediatric Fellow in Cardiology under Dr. Dushane in the fall of 1965.

API News: Carl M. Bowman, M.D., Emeritus Professor of Psychiatry, and retired superintendent of the Langley Porter Neuropsychiatric Institute of the University of California in San Francisco received an honorary Doctor of Laws degree at the commencement exercises in June, 1965. He also received the first annual J. Elliott Royer Award which was endowed by the late Doctor Royer to honor Bay area physicians who had made outstanding contributions to the advancement of psychiatry and neurology.

Richard Kapsa, M.D., who had previously served as a staff psychiatrist on loan to the Psychiatric Institute from the University of Utah during short periods in 1963 and 1964 has joined the Institute as a fulltime staff psychiatrist.

NOME: Dr. Robert Fenstermacher, hospital administrator for the last two years at Maynard-McDougall Hospital in Nome, has been joined by Dr. Robert Townsend Lott. Dr. Lott, is serving as Medical Director replacing Dr. Schadler, who is now practicing in West Virginia. He was formerly in private practice in West Point, Mississippi, where he was engaged in a general surgery and general practice. He completed two and a half years of surgical residency at Kennedy Veterans Hospital in Memphis, Tennessee and is a member of the American Medical Association. They have four children of whom the last, a little girl, was recently born in Nome. The Fenstermachers also have a new daughter. Dr. Fenstermacher is serving as the President of the Hospital Administrators Association for the state of Alaska.

JUNEAU: Dr. Akiyama has been appointed to the Board of Medical Examiners by Governor Egan. Dr. Jack Gibson is serving as the acting part-time head of Maternal and Child Health Services for the Department of Health & Welfare.

SITKA: Dr. Philip Moore has been appointed Governor to the American College of Surgeons.

FAIRBANKS: Dr. Nicholas Deeley, pediatrician at the Fairbanks Medical and Surgical Clinic recently attended the North Pacific Pediatric Society Meeting and is taking a six weeks refresher course at the Mayo Clinic. Dr. Raymond Evans was appointed a Member of the Board of Medical Examiners recently by Governor Egan. Dr. Tatum, internist, of the Tanana Valley Medical and Surgical Clinic, plans to take further training in Allergy and possibly relocate in California.

Some people go south in the winter, but Dr. Lionel Richardson came from Puerto Rico to Fairbanks in March to be Northern Regional health officer for the Alaska Department of Health and Welfare. (The health officer's post had been vacant since the resignation of Dr. E. V. O'Brien last summer.)

Doctor Richardson has been assistant director of a Northeastern District municipal health unit in Puerto Rico since 1961. Previously he had been in private practice of internal medicine in Brooklyn, New York, from 1938 to 1960. Born in Trinidad, British West Indies in 1907, he attended elementary school there before coming to the United States of which he is a naturalized citizen. He did his pre-medical work at Long Island University in Brooklyn and received his Medical Doctor's degree from Meharry Medical College in Nashville, Tennessee. He took his Master of Public Health degree at the University of Puerto Rico School of Tropical Medicine in San Juan. He also had a year's fellowship in medicine at King's County Hospital Center in Brooklyn, served as part-time director of medicine for the United Mutual Life Insurance, as visiting physician for the New York State University School of Medicine, and was lecturer at the New York City Welfare department, Health department and Venereal Disease program.

Mrs. Richardson and their 16-year-old son are accompanying him to Alaska. Their daughter is completing work for a Master's degree in social work at Washington University in the District of Columbia.

**WANTED:** M.D. to share practice in Kodiak, Alaska's oldest, most promising and prettiest community; population 3500 and growing. Must be general practitioner or general surgeon willing to do some general practice temporarily. Equipped clinic facilities available for rent. Separate billing and separate practice as desired. Community Hospital, nineteen beds, with complete x-ray and laboratory services. Forty-five to fifty-hour week. Home for lunch. A challenging country and a challenging practice. Contact R. Holmes Johnson, M.D., Box 1727, Ph. 486-2171.



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# VASCULAR SURGERY IN ALASKA

by MICHAEL F. HEIN, M.D.

ANCHORAGE, ALASKA

*Presented at the 20th Annual Meeting of Alaska State Medical Association, Fairbanks, Alaska, May 26, 1965*

The symptoms and signs of vascular insufficiency are being recognized earlier today than a few years ago. The reason for this earlier recognition of vascular insufficiency is based on three observations. First, the natural history of vascular insufficiency has been shown to end in tissue necrosis. This is true whether that portion of the body be the foot, with gangrene; the heart with a myocardial infarction; or the brain with a stroke. Secondly, vascular reconstruction can relieve pain by restoring blood supply and can restore function where the tissue is viable. Lastly, it has been demonstrated the treatment is not worse than the disease. Namely, vascular reconstruction can be performed safely with a minimum of risk to the patient.

The following cases will illustrate some of the more interesting vascular insufficiency problems which have been seen in the first six months of practice in Alaska.

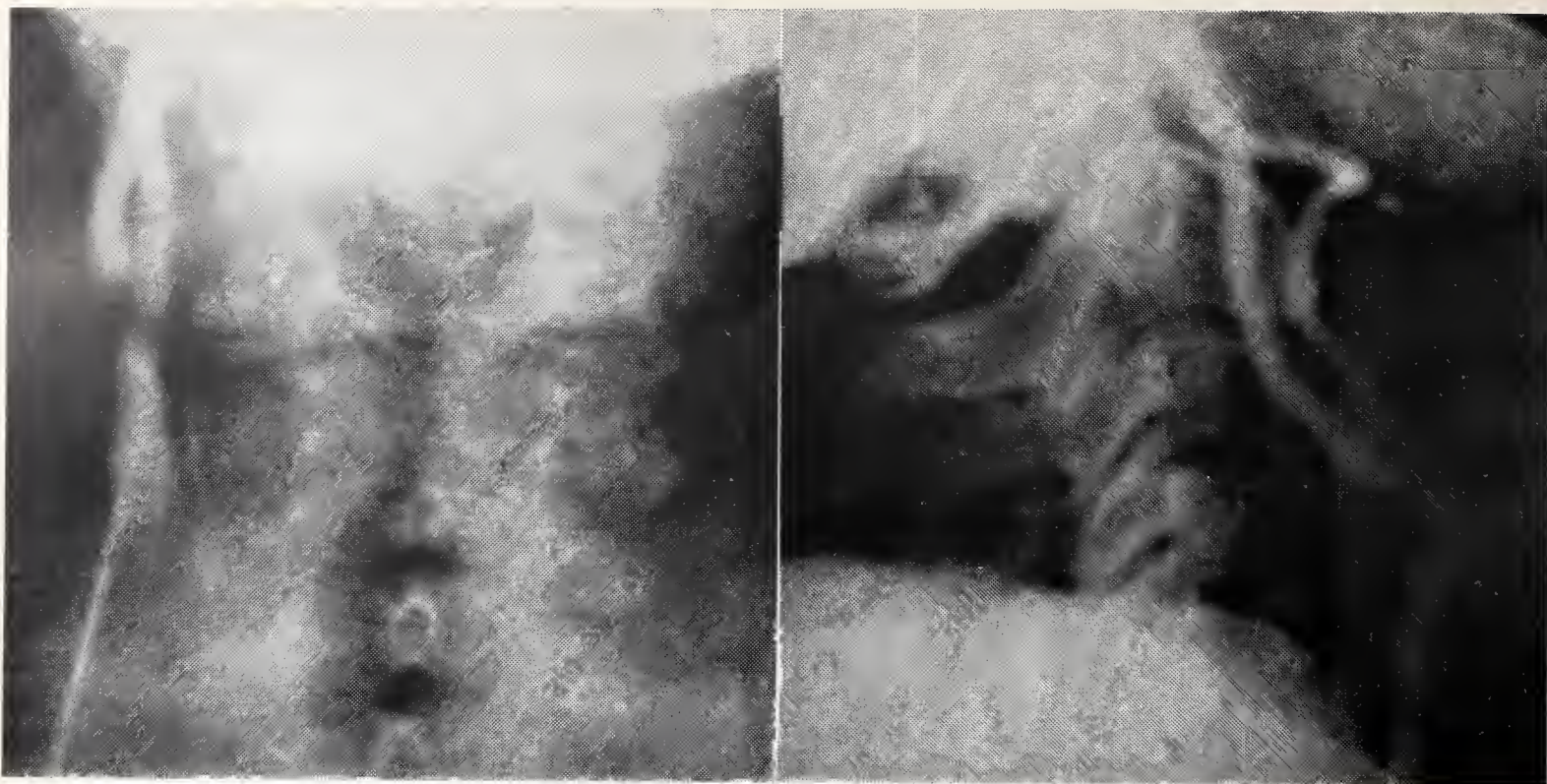
## **CEREBRAL VASCULAR INSUFFICIENCY:**

The history presented by this group of patients is either one of a clear cut neurological deficit or is a rather vague non-specific decrease in cerebrating capacity. In the first group with clear cut neurological deficit the patient presents with stroke or strokelets. The usual complaints are of weakness and numbness in an arm or leg, and at times one side of the face. The patient may have difficulty describing the symptoms at the time, but later the patient will say he was unable to speak or think clearly. Some of the more bizarre symptoms include flashes of light in front of the eyes, a light-headed feeling, or a buzzing in the ears. Another manifestation is of alteration in personality, approaching almost a psychiatric problem. Both the clear cut and the vague symptomatology reflect cerebral ischemia.

Physical examination should not only include the general physical examination, but specific attention directed at the great vessels in the neck and arms. Blood pressures in both arms should be recorded. A difference of more than twenty millimeters of mercury in the arm blood pressure is abnormal. This suggests there is a significant block and collateral flow may not be adequate around this obstruction. With the patient in the sitting position each carotid artery is palpated from the level just above the clavicle to the angle of the jaw. The consistency of the vessel is noted. Normally the vessel is soft and pliable. With occlusive vascular disease due to arteriosclerosis this pulsation is much less. The vessel feels hard and stiff, and often the carotid artery bifurcation is not pulsatile. Next, the vessels of the neck are auscultated. The supraclavicular area is examined for a bruit over the subclavian artery. A bruit in this area suggests partial occlusion of the subclavian artery at its origin from the aorta or at the take off of the vertebral artery from the subclavian artery. Next one auscultates from the level above the clavicle toward the angle of the jaw. As one nears the angle of the jaw it is best to ask the patient to hold his breath temporarily. Often only in the absence of all extraneous sounds is it possible to hear a bruit over the carotid artery bifurcation. The presence of a bruit is evidence there is significant obstruction to flow at that site.

The next step is demonstration of the location and extent of occlusive disease by arteriography. This can be performed under local or general anesthesia. Radiopaque media is introduced proximally, either in the aortic arch or the common carotid arteries. Biplane roentgenograms are obtained. The first is usually in the anterior-posterior, and the second is in the lateral view. These are obtained with the rapid cassette



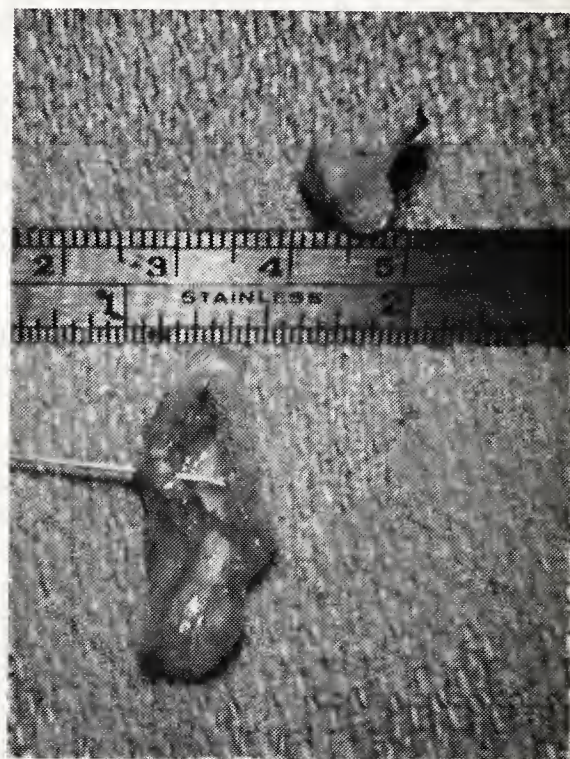


*Figure 1: AP and lateral views of right carotid artery bifurcation stenosis in male of 52 years of age. Note almost complete obstruction.*

changer. An exposure is obtained every half second. Figure 1, illustrates an example of common carotid artery bifurcation stenosis at the internal carotid artery take off.

Case 1: This seismologist of 52 years of age noted gradually increasing difficulty in concentrating. Associates of his noted a marked deterioration in his personality and significant forgetfulness. In addition he had one episode of left arm weakness and numbness associated with flashes of light in front of the eyes. He denied any nausea, vomiting. On examination he had a high pitched bruit over the right carotid artery bifurcation. Figure 1 illustrates the AP and lateral carotid arteriograms. Note the very stenotic area at the bifurcation that extends into the internal carotid artery proximally 1 cm. At operation the carotid artery was mobilized. While the patient was systemically heparinized, endarterectomy was performed. Figure 2 illustrates the specimen. The patient did well postoperatively. Since then he has had no symptoms or signs of cerebrovascular insufficiency. He has returned to full employment.

In most cases an arteriogram is performed. However, there is one exception. This exception is the patient who is having a progressing, acute, unilateral stroke with a bruit in the opposite carotid artery bifurcation. Frequently, I prefer to proceed directly with removal of the plaque in these patients. The reason is that minutes can make the difference between restoring blood flow to an ischemic area or one of frank tissue necrosis with permanent brain damage.



*Figure 2: Photograph of endarterectomy specimen. Note the thickened posterior wall (3 mm), and the lateral walls (2 mm). At surgery an eighty percent occlusion of the internal carotid artery crifice was present.*



One question which frequently arises is what should the physician do if the patient has definite symptoms of cerebrovascular insufficiency, but no bruit is audible. This need not seem incompatible, because a vessel which has narrowing will cause turbulence and a bruit. Further, if there is complete occlusion, there is no turbulence and thus no bruit. Examples of complete occlusions occur in the internal carotid, common carotid, vertebral, and subclavian artery origins. Another explanation for the absence of an audible bruit is that plaques of the thickened intima in vessels deep within the chest may not produce audible bruits because of the insulation effect of the chest wall. Thus, there are at least two reasons why a bruit need not be heard when occlusive disease is present; a complete occlusion or a deeply placed partial occlusion.

A reliable method to study these patients is the arch study. A fine catheter is inserted retrograde into a brachial artery under local anesthesia. The catheter is advanced into the aortic arch. Injection of radiopaque contrast material allows opacification of the great vessels and serial roentgenograms allow study of the pathways of flow. This method is most desirable when studying patients with subclavian artery occlusions causing the subclavian steal syndrome, Figure 3. In addition this is the method whereby vertebral artery take off occlusions can be demonstrated satisfactorily.

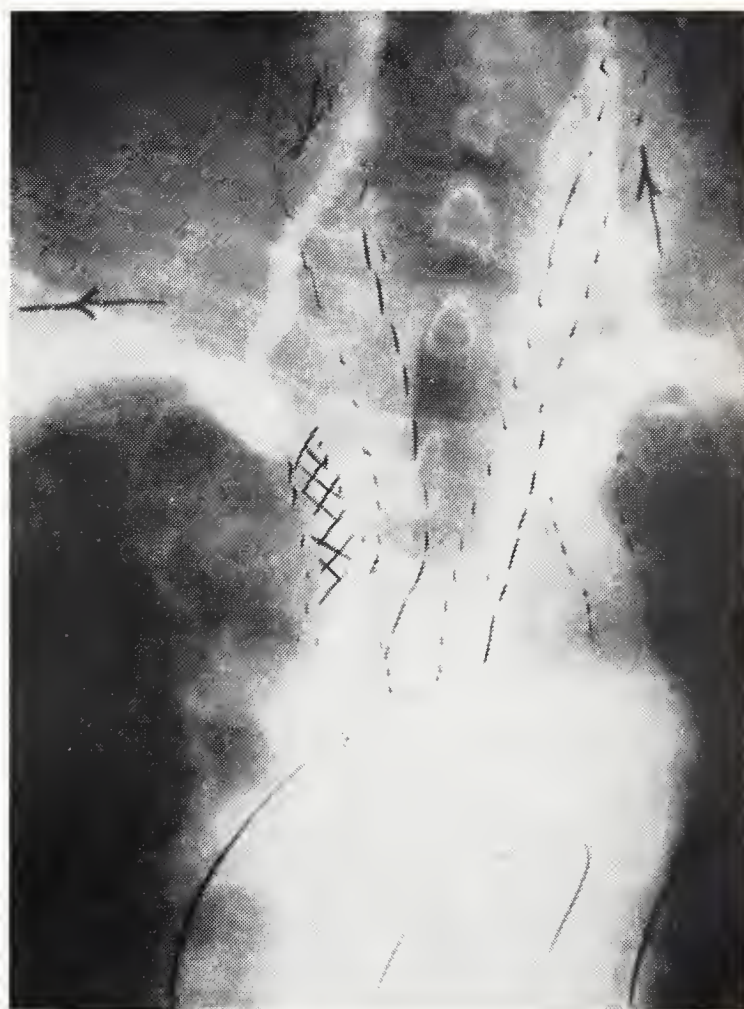
**Case 2:** This fifty year old male had weakness in his right arm on exercise, with continued activity, dizziness and light-headedness were associated with the weakness. On examination the right arm blood pressure was 100/60 mm of mercury and the left was 160/100 mm of mercury. A bruit was present over the left common carotid artery bifurcation and over the right supraclavicular area. The arteriogram demonstrates the subclavian steal. In addition spot films of the left common carotid artery bifurcation demonstrated a significant occlusion. Endarterectomy of the left common carotid and internal carotid artery bifurcation was followed by a completely asymptomatic state. The patient demonstrated no weakness or dizziness and light headedness on exercise of the right arm.

Briefly, cerebrovascular insufficiency may present as a stroke, hemiparesis, aphasia, vague symptoms of confusion, flashes of light, dizziness and buzzing in the ears. A thorough search for occlusive vascular disease in the arms and neck will usually demonstrate a significant obstruction. If a bruit has not been heard, or a difference in arm pressure is not present despite significant cerebrovascular insufficiency symptoms, arteriography still should be considered. The

reason is their next visit may not be one for just a diagnostic work-up, but rather for the custodial management of a completed stroke.

**HYPERTENSION:** High blood pressure has been shown to significantly shorten longevity. In patients with high blood pressure, the early diagnosis is important before the consequences of sustained hypertension effect irreversible arteriolar damage to the brain, retina, myocardium and kidney. Although the majority of patients have essential hypertension, some do have the surgically correctible form which allows restoration of the blood pressure to normal. These lesions involve the adrenal glands and the kidneys. Fortunately a high index of suspicion can be obtained on the basis of history and physical examination.

The presence of recent, definite and sustained high blood pressure should always remind us of these four correctible lesions. Historically the first lesion to be described associated with re-



*Figure 3: Retrograde brachial arch arteriogram. Note the flow of dye around the occluded right subclavian artery. The pathway includes the normal flow up the left vertebral artery, but retrograde down the right vertebral into the distal subclavian artery.*



versible hypertension was **Cushing's Syndrome**. This form of adrenal cortical hyperactivity demonstrates the characteristic physical findings of hairiness, obesity, a moon-like face, striae, in addition to the high blood pressure. Next in outstanding clinical features is the **pheochromocytoma**. Now that a sufficient number of patients with sustained as well as episodic increases in blood pressure have been studied more emphasis should be placed on the associated sympathetic hyperactivity of sweating, nervousness and tachycardia. An interesting observation of patients with a pheochromocytoma has been that on standing there is a fall in the blood pressure toward normal and an increase in the pulse rate. **Aldosteronism** is the third form of reversible hypertension. It is a specific form of adrenal cortical hyperactivity. The characteristic features of aldosteronism are nocturia, occasional weakness of the arms and legs, and in contrast to the last mentioned pheochromocytoma, in aldosteronism there is frequently a fall in blood pressure toward normal without the compensatory increase in pulse rate on standing. Although Goldblatt described the consequence of renal artery narrowing many years ago, the exact mechanism had yet to be defined. Recently this relationship has been shown to be related more to the characteristics of the renal blood flow versus renal mass than to the absolute blood supply. One characteristic feature in patients with **renal vascular hypertension** is the presence of a bruit in the epigastrium in 90% of these patients.

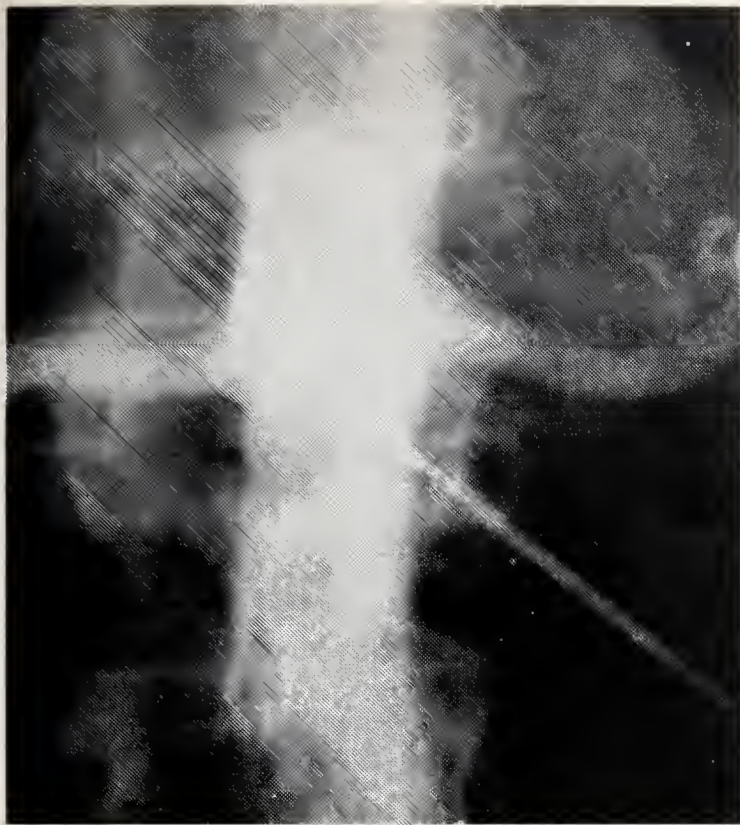
As for the laboratory studies to confirm the diagnosis, if one has a patient who is clinically Cushionoid, a urinary 17 hydroxy corticosterone level will settle the question unequivocally. The chief laboratory diagnostic finding in a pheochromocytoma is an increase in urinary catechol amine excretion. Again, other laboratory studies may be consistent but none is pathognomonic. In order to rule out primary aldosteronism a serum potassium should be obtained. Hypokalemia, a low serum potassium, is always present in primary aldosteronism. It should be mentioned that hypertensive patients often are on a low sodium diet. In primary aldosteronism this low sodium diet may shift a low serum potassium to the normal range. For this reason the patients should be on a full three gram sodium diet three days before the blood specimen for the serum potassium is drawn. A normal serum potassium under these conditions rules out primary aldosteronism.

The second step in working up any of the three previously mentioned conditions is the first step to be done in working up a patient with renal vascular hypertension. Namely, a rapid intravenous pyelogram—the IVP.

This is a reasonably reliable method to screen patients with hypertension. Mentioning to the radiologist the particular patient is being studied because of hypertension will alert him to not only watch for the characteristics of adrenal pathology, but also to look for certain well recognized features of the renal shadow on the intravenous urogram. The intravenous pyelogram in patients with renal vascular hypertension demonstrates three classic features. First, a delay in the appearance of the dye on the involved side is noted. Second, the kidney on the involved side is smaller. This is usually at least 1 to 1½ cm smaller than the opposite kidney. Finally, the film taken 10 minutes after the injection of dye usually shows a greater contrast of dye on the involved side, compared to the normal functioning kidney. In patients with definite malignant hypertension with normal pyelogram further studies may be recommended. The reason is that a negative IVP does not rule out a correctible lesion. When the intravenous urogram is suggestive of renal vascular hypertension a comparison of the urine from each kidney is performed. This measures the urine volume, urine solute and the functional capacity of each kidney. By this test it is possible to differentiate between the hypertension associated with pyelonephritis and hypertension due to renal ischemia. In the latter condition there is a greater reabsorption of water.

The next step is demonstrating the lesion. Figure 4 demonstrates the translumbar aortogram. This method is excellent for visualizing both renal arteries. It is the method of choice in patients who have occlusive disease in the femoral arteries which precludes the retrograde technique. This latter method, retrograde femoral renal arteriogram, allows placement of a catheter at the level in the aorta of the renal arteries. Rapid exposure of film while injecting allows demonstration of any occlusion in the renal artery. The two types of occlusive lesions involving the renal artery are arteriosclerosis and fibromuscular hyperplasia. The latter usually involves the middle third of the renal artery. This condition is frequently bilateral, and occurs in younger women.





*Figure 4: Translumbal aortogram demonstrating renal arteries. Note sharp contrast.*

The treatment of choice is extirpation for the endocrine abnormalities. Endarterectomy with removal of the occluding plaque or bypassing the involved segment in renal artery obstruction is the treatment in renal vascular hypertension. At times nephrectomy is the treatment of choice in poor risk patients.

**AORTO-ILIAC-FEMORAL ARTERY OCCLUSIVE DISEASE:** This distribution of the occlusive vascular disease has been a frequently encountered condition here in Alaska. Classically these patients have cramps or aching pains in their legs when they walk, often described as "tired legs." This condition is known as claudication. Even more classically is that these patients will have relief of their aching sensation in their calves when they stop walking and rest for a few minutes. Upon resting a few minutes they are then again able to return to walking for about an equivalent distance before the pain becomes so severe they have to rest. Another classical symptom is that of a burning pain over the dorsum of their feet. This is called "rest pain." It occurs at night and is relieved by walking or hanging the foot over the side of the bed. An even more classical manifestation is that of tissue necrosis, Figure 5.

Tissue breakdown to necrosis is one of the final stages of progressive ischemia. On examination these patients may have a normal upper abdominal aortic pulsation, however, the area of the bifurcation has decreased pulsation and is frequently associated with a bruit. The femoral artery pulsations are frequently reduced or absent in these patients. These patients usually have severe symptoms of aching in their hips when they walk. Patients who have occlusions midway between the femoral artery and the popliteal artery often have severe calf pain and aching when they walk, and rest pain in the evening. These patients do not have palpable popliteal artery pulsations. The presence of a popliteal artery pulse in the absence of a dorsalis pedis or posterior tibial artery pulse suggest small vessel occlusive disease. Thromboangitis obliterans and diabetes mellitus are the two common causes for this tissue ischemia. A reliable test is the degree of pallor on elevation of the feet. Also, on lowering the feet there will be a delay in the appearance of blood reaching the feet. This delay is usually greater than fifteen seconds. Reactive hyperemia presents as the fiery red rubor. Patients with significant pain in their legs or hips when they walk, a burning pain over the feet in the evening or tis-



*Fig. 5: Dry gangrene due to arteriosclerosis obliterans with almost complete occlusion of aortic bifurcation.*



sue necrosis should have an aortogram which includes aorta, iliacs, femorals and popliteal trifurcation. Selective superior mesenteric artery and celiac axis arteriography has been a great help in ruling out the occasional patient with abdominal angina due to stenosis of that vessel.

Case 3: This middle aged gentleman had extensive tissue necrosis and severe rest pain in his left foot. His distal abdominal aorta and the femoral arteries were barely palpable. The aortogram demonstrated almost complete occlusion of the distal abdominal aorta and iliac and femoral vessels. At operation an 80% occlusion of aorto-iliac-femoral vessel was present. Endarterectomy of this entire segment was accomplished with removal of the thickened intima. After surgery he had a bounding abdominal aortic pulsation, femoral, popliteal, and pedal pulses. He was discharged from the hospital in seven days. He went to work in two weeks.

Figure 6 demonstrates a complete occlusion of the abdominal aorta. This occurred in a lady of fifty-five years who had noted progressively increasing ache in her feet and legs when she walked and in addition increased sensitivity to the cold. On examination she had no pulsation in the distal aorta, femoral, popliteal arteries or pedal pulses. The aortogram demonstrates a completely occluded abdominal aorta with significant collateral flow around the block. At surgery this



Figure 6: Translumbar aortogram of lady 55 years of age with calf and hip claudication. Note complete occlusion of aorta and development of collateral circulation.

area was mobilized and endarterectomy from just below the renal arteries down to the femoral arteries was accomplished. Bilateral lumbar sympathectomy was performed. After surgery she had warm feet, bounding dorsalis pedis and posterior tibial pulses. She went home on the seventh day and returned to work in two and one-half weeks.

Aorto-iliac-femoral Endarterectomy is a major operation and should be reserved for good risk patients. In contrast, however, is a patient who is a poor risk and thereby is not able to tolerate a major interabdominal procedure. Such a patient's aortogram is seen in Figure 8. This type of patient



Figure 7: Thromboendarterectomy specimen from above lady. Note solid core of atheromatous material blocking aorta and iliac vessels.



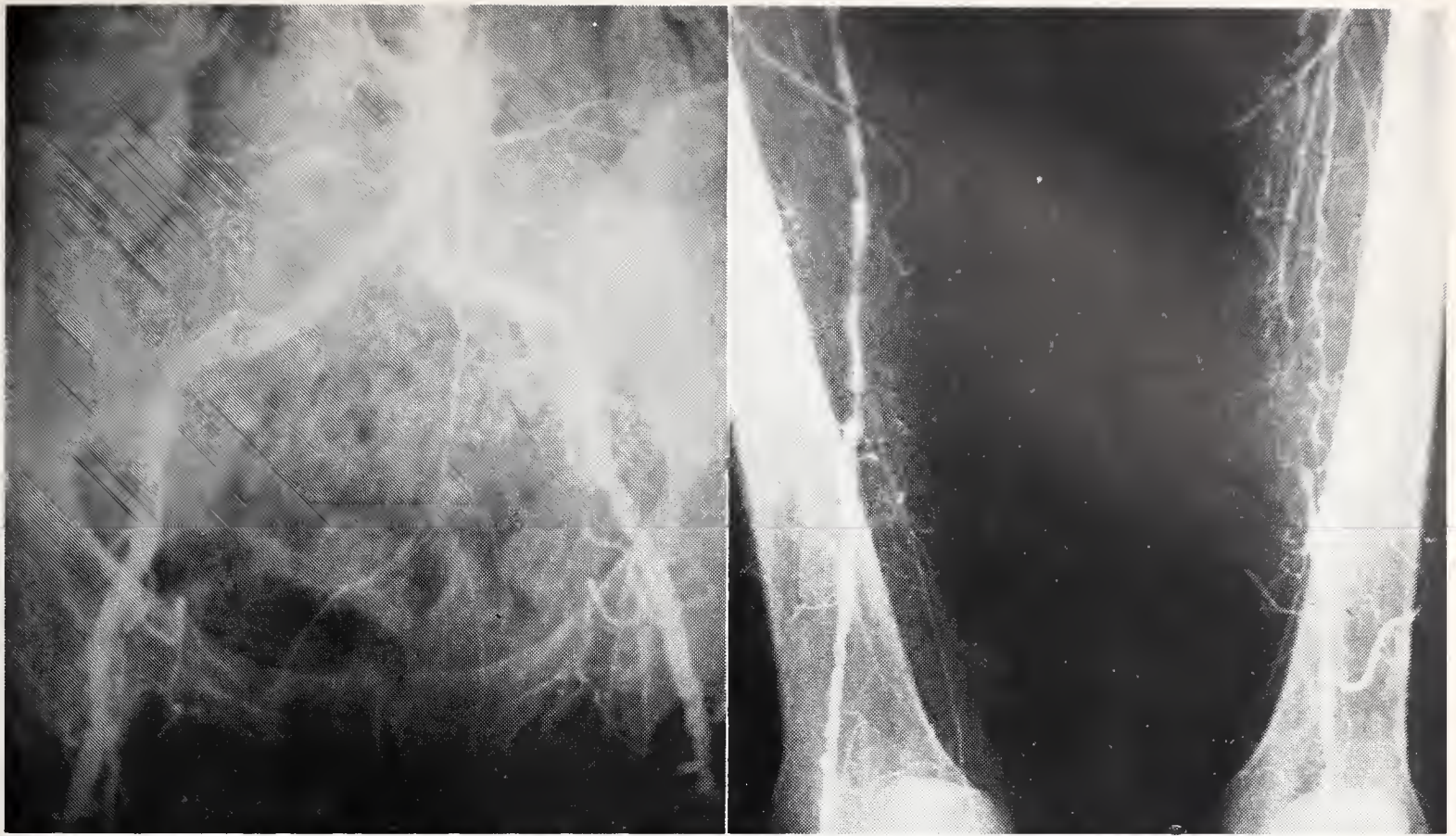


Figure 8: Translumbal aortogram of Case 4. This lady of 69 years had multiple ulcerations of both feet. Note complete left superficial femoral occlusion and almost 100% on right.

has tissue ischemia causing pain and tissue breakdown. Often bilateral lumbar sympathectomy allows enough increase in flow through the skin to provide adequate circulation with relief of these symptoms and signs. However, it would usually not be enough to allow ambulating significant distances without symptoms. This operation, bilateral lumbar sympathectomy, will often, however, restore them to a symptom-free state and to minimal functional activity.

Case 4: This lady is sixty-nine years of age. She had congestive heart failure, weighed eighty-five pounds, and had continuous rest pain of her feet with tissue necrosis. She had absolutely no pulse beneath her femoral arteries. Aortogram demonstrates reasonably good aorto-iliac circulation. However, there is bilateral superficial femoral artery occlusions. Bilateral lumbar sympathectomy allowed adequate circulation to relieve the rest pain and tissue necrosis. She was able to return home and resume her household activities.

Good risk patients with segmental occlusion of the superficial femoral arteries with significant symptoms and signs of ischemia can be appreciably relieved by either superficial femoral endarterectomy or a bypass graft. These operations in selected cases allow augmenting many pain-free years to a patient's life without subjecting them to a significant risk.

**SUMMARY:** Peripheral vascular insufficiency may be manifested in a patient from an obvious stroke to symptoms compatible with psychotic behavior. The usual symptoms are episodes of fainting, progressing to weakness and aphasia. Examination frequently reveals a bruit. X-rays are necessary in most cases to pinpoint the lesion. One can rule out the Cushing Syndrome clinically. Nervousness, sweating, tachycardia and hypertension are consistent with a pheochromocytoma. This diagnosis may be confirmed with one simple urine test. Primary aldosteronism can be ruled out with one blood test—a normal serum potassium. An intravenous pyelogram is helpful in localizing the first three conditions in hypertension and is suggestive in patients with renal vascular hypertension. A renal arteriogram is necessary to pinpoint the involved segment of the renal artery.

Patients with tired legs, tissue necrosis of the feet should have their pulses examined. The location and extent of occlusive disease can be pinpointed easily by x-ray.

These are all surgically correctible lesions. The obstruction can either be removed or bypassed without a significant risk to the patient. The patient can be restored to a pain-free state and returned to gainful employment here in Alaska.



# RESPIRATORY DISEASE EPIDEMIC IN HOONAH, SOUTHEAST ALASKA

by JAMES W. JUSTICE, M.D.

MT. EDGE CUMBE, ALASKA

## Purpose

The morbidity and mortality from respiratory disease in Alaska leads the list of infectious diseases each year, but few epidemics have been investigated (1, 2) or even described. This report's purpose is to document one such outbreak and to point out the advantages of Alaska locations for research in respiratory diseases. The field data was compiled by a United States Public Health Service physician and nurse during May 21 and 22, 1964, while primarily engaged in clinical care of the residents of Hoonah.

## Background

Hoonah is the largest Tlinget Indian community in Alaska located on Port Alexander, 45 air miles southwest of Juneau. It is the largest town on Chichagof Island. The influx of outsiders from Washington State and other Alaskan towns started in mid April to prepare for the principal industry of fishing and crab canning. The 1964 population was 850, of whom 95% have Indian ancestry. The city clerk counted 115 houses occupied. Most are one story wood frame construction homes built about ten years ago, with three to five rooms. Average occupancy is 7.4 persons. More than half the population is under 20 years. The total school age, from five through 17 years, is 223 persons and 26% of the total. Preschoolers are 135 or 16%.

Three infants with bronchopneumonia were admitted to U.S.P.H.S. Mt. Edgecumbe Hospital during the last week of April. By the third week in May, 20 others had been admitted to either Mt. Edgecumbe or St. Ann's Hospital in Juneau. During the same time 51 clinically similar cases were hospitalized from the communities of Juneau, Angoon, Sitka and Kake. All but two of 74 were under six years old.

## Definitions and Methods

The male or female heads of 36 households were interviewed, usually when they attended the clinic (31% of total households). Information on 275 persons were recorded (32% of population). In the school ages, 5 through 17 years, information was recorded 53% of this total group. Either the physician or the nurse asked questions about illness during the first three weeks of May, since recall beyond three weeks was presumed inaccurate. In the following analysis "ill persons" included: those with symptoms of cough, running nose or sore throat where a definite date of onset was stated (considered upper respiratory); those "trouble breathing and fever" (called lower respiratory disease); those with otitis media diagnosed either by the physicians' examination in the clinic or by hospital records from St. Ann's and Mt. Edgecumbe Hospitals.

Adults with a variety of complaints of an acute nature were also considered ill if the onset was dated. Known chronic complaints, chicken pox, and persons who gave a history of a "cold" but could not remember when and did not curtail their usual activities were not considered "ill."

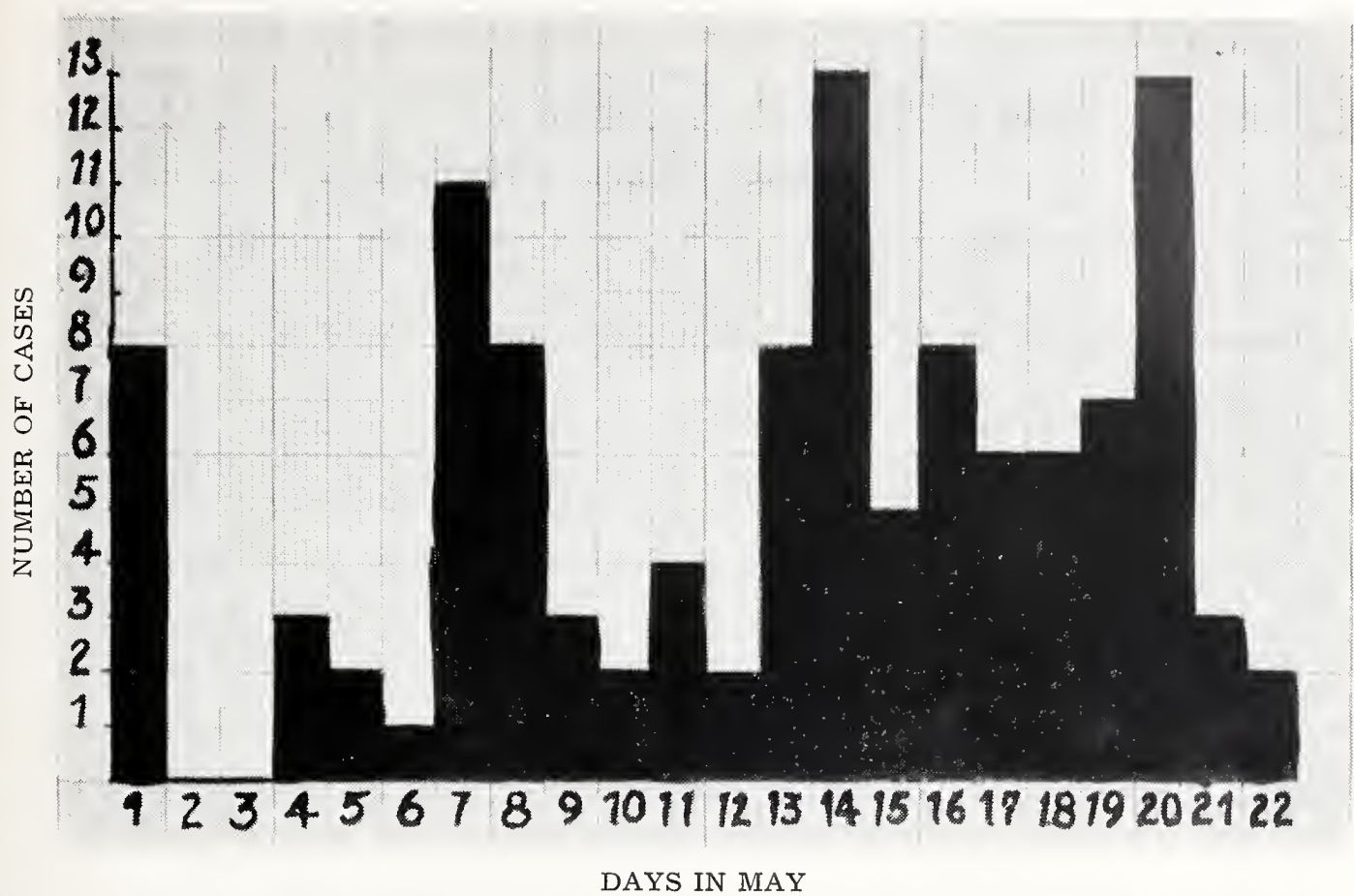
Total persons called ill was 119 or 43.4% of the sample.

## Duration and Incubation Period

(See Graph I) Four epidemic peaks occurred on the 1st, 7th, 14th, and 20th of May. This agrees with the mean incubation period calculated from dates of the first illness and subsequent cases within the same household. The mean was 6.9 days, S.D. 3 days. The mode was 7 days with a range of 2 to 13 days. (See Graph 2)



GRAPH I—RESPIRATORY DISEASE EPIDEMIC, MAY, 1964—115 CASES BY DAY OF ONSET



GRAPS II—INCUBATION PERIODS IN 42 SECONDARY CASES RESPIRATORY ILLNESS

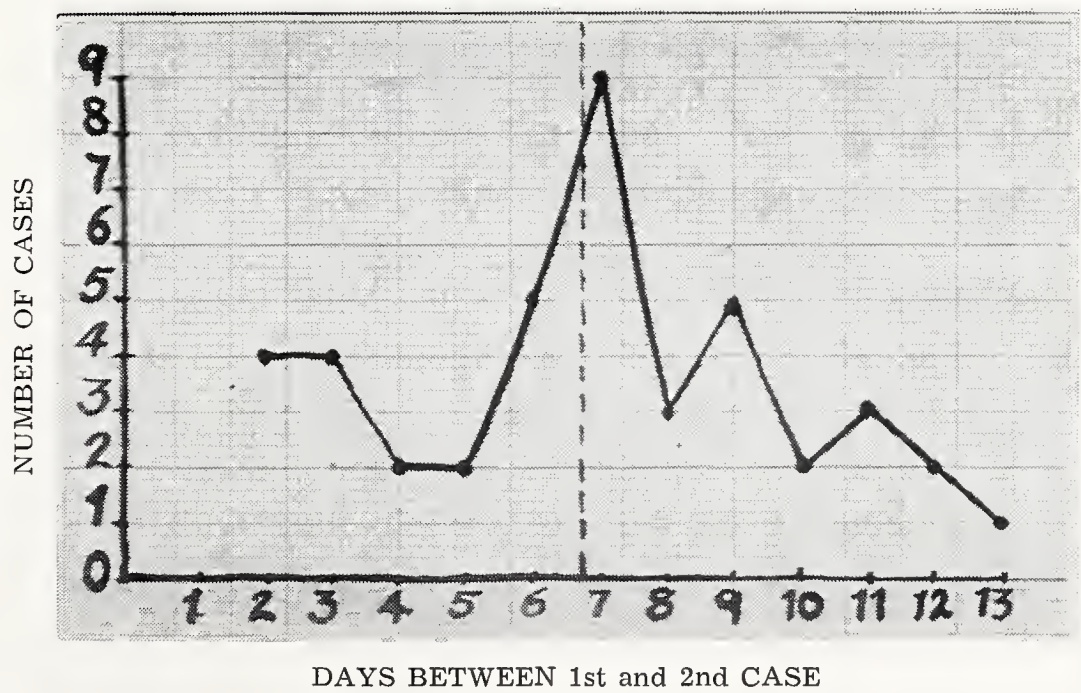


TABLE I — ILLNESS BY AGE GROUP FOR 36 HOONAH HOUSEHOLDS FROM MAY 1 THROUGH MAY 22, 1964

Age Groups In Years	Number Ill	Not Ill	Total	Percent Ill
0-2	34	5	34/39	87.2
3-5	30	13	30/43	69.8
6-8	19	19	19/38	50.0
9-11	10	27	10/37	27.0
12-14	2	20	2/22	9.1
15-17	3	6	3/9	33.3
18-over	21	63	21/84	25.0
	119	153	119/272	43.4

TABLE II — SYMPTOMS AS ELICITED BY INTERVIEW IN 115 PERSONS CONSIDERED ILL

SYMPTOMS	AGE GROUPS				TOTALS	
	0-3	4-7	8-18	Over 18	Number	% of 115
"Fever"	36	21	4	8	69	60%
"Cold, cough"	15	13	5	5	38	33%
"Breathing hard, wheezing"	24	5	0	2	31	27%
"Sore throat"	10	6	7	6	29	25%
"Sore or Draining Ear"	12	9	4	3	28	24%
"Cough, tired, didn't feel good"						
Dated onset and denied above symptoms plus other.	5	4	5	8	22	19%

TABLE III — DIAGNOSIS BY PHYSICIANS IN 58 PATIENTS AT HOONAH AND 23 PATIENTS HOSPITALIZED FROM HOONAH

SYMPTOMS	AGE GROUPS				TOTALS	
	0-3	4-7	8-18	18	Number	% of 81
U.R.I.	8	3	—	2	13	16%
Bronchiolitis and Pneumonia	28	2	—	1	31	38%
Cervical Adenitis	10	4	2	—	16	20%
Otitis Media, acute & chronic	18	7	3	1	29	36%
Tonsillitis	7	5	4	1	17	20%
Pharyngitis	9	3	2	3	17	20%
Other	2	1	1	5	9	11%

### Age Specific Attack Rates

(Table I) The lack of illness in the 12 to 14 year age group might be due to sample bias, but a review of school absentees showed the same general picture.

### Clinical Findings

(Tables II & III) These tables indicate the general accuracy of simple interview techniques when compared with physicians' findings.

### Fever

Temperatures were not taken during the field clinic. 19 of 23 Hoonah patients who were hospitalized were febrile over 100°. Fever over 103° was most common in the 0 to 3 age group. The usual duration as reported by lay persons was "a few days." This usually meant more than two days and less than five. In 11 hospitalized patients for whom the exact date of fever was given by Hoonah parents, the average was 4.3 days.

DAYS OF FEVER	0	1	4	5	7	10
NUMBER OF PATIENTS	1	2	4	1	2	1

### Otitis Media and Pharyngitis

All cases of tympanic perforation and drainage were exacerbations of chronic disease. This was present in 10 of 52 examined. All were below eight years. Another ten persons from this group presented with an acute picture of gray, retracted drum with severe inflammation of the peripheral and malleolar vessels. In two persons, blood was present in the canal from ruptured vessels. Tonsils were enlarged, tender, and pale pink in color. Only 1 person had exudative tonsillitis. Pharyngitis presented as dusky red "cobble stone" patches of lymphoid hyperplasia. A hacking, non-productive cough that lasted more than a week was a common symptom.

### Other Syndromes

Acute diarrhea was present in one infant (who also had fever and cough) and in one adult. One teenage female who was sent to St. Ann's Hospital for observation was diagnosed as having mesenteris adenitis. Her W.B.C. was 4,000 predominantly mononuclear cells. Two adult females had exacerbations of pyelonephritis, and two had acute cholecystitis. One male had acute prostatitis.



## Bronchiolitis and Bronchopneumonia

The most striking feature of this epidemic was the patchy infiltrates combined with the usual radiological signs of bronchiolitis. These infiltrates were present on admission and evidently appeared early in the disease. The hilar areas, right middle lobe and both upper lobes were the most common sites involved, singly or in combination. Rales persisted 3 to 4 days after patients were afebrile, but one 6 year old took 11 days to clear a RML, RUL lesion and one three month old took 10 days to clear a RUL infiltrate. The others were discharged to Hoonah without repeat films.

## Varicella like Rash

Three mild cases of rash resembling varicella were seen during the field clinic. One had both rash and respiratory disease. One had respiratory disease six days after the crusts were gone, and three others developed the pox lesions after discharge from the hospital. Therefore, the diseases were distinct.

## Laboratory Findings

White blood counts on admission for 22 of 23 Hoonah children were normal. The mean count was 9200 with a range of 550 to 27,000. This high count was 77% lymphocytes. Nine showed a relative lymphocytosis for their age. Four had a lymphocytosis over 70%. WBC counts were repeated on five patients. No change from admission was seen five to seven days later.

Throat cultures were plated on sheep cell agar media. Colonies were stained and examined. All were negative for pathogens except for one severely ill infant of six months with *E. coli*. One urinalysis showed multiple red blood cells on admission, but repeated analysis were normal.

## Therapy and Response

The 24 Hoonah patients received the following antibiotic therapy: None, 7; penicillin alone, 9; penicillin plus tetracycline or achromycin, 5; penicillin plus triple sulfa, 3. In thirteen patients for whom the onset of fever was known, including two who became ill from the ward population, six received various antibiotics and seven had none. There was no consistent difference in response between these groups, either by duration of fever or by need for steam inhalation. The majority were judged clinically well seven days after onset in spite of persistent scattered rales. Two of the most severely ill infants were placed in croupettes, given steroid therapy and intravenous feeding. All patients recovered in five to twelve days.

## Secondary Attack Rates

See Table IV. An illness was considered secondary if occurring greater than two days and less than 14 days from the index case. Tertiary cases were greater than 14 days. Co-primary cases occurred within two days of one another.

## Discussion of Etiology and Pathogenesis

The agent was highly contagious, affecting all age groups, but mostly those five years and under. (Table I) The severity of the pneumonia appeared to be related only to the age of the patient. Those under six months of age had the most difficulty. The nine to seventeen year age group seemed to have some immunity. Most adults became ill only when exposed to an ill child in the home. (Table IV). Spread was probably from direct contact with respiratory secretions and was facilitated by the ratio of 7.4 persons per home. Children in the lower school grades were probably most re-

TABLE IV—SECONDARY ATTACK RATES IN 23 HOONAH FAMILIES COMPARED WITH 13 HOONAH FAMILIES WITH ONLY PRIMARY CASES

Ages	Total Groups	SECONDARY CASES			Attack Rate %	PRIMARY CASES		
		Primary, Co-Primary	Secondary, Tertiary	Number		Total Groups	Primary Co-Primary	Attack Rate %
0-2 .....	26	10	13	13/16	81.2	13	11	84.6
3-5 .....	29	7	16	16/22	72.7	14	7	50.0
6-8 .....	29	7	8	8/22	36.4	9	4	44.4
9-11 .....	23	3	7	7/70	35.0	14	0	0.0
12-14 .....	11	1	1	1/10	1.0	11	0	0.0
15-17 .....	6	0	2	2/6	33.3	3	1	33.3
18 Plus .....	51	9	10	10/42	23.8	33	2	6.1
TOTALS: .....	175	37	57	57/138	41.3	97	25	25.8

sponsible for the spread. The secondary attack rate in this relatively stable population could mean that the agent was an uncommon visitor to Hoonah or, if endemic, did not produce a stable immunity. It is regrettable that equipment was not available to preserve serum so that immunological procedures could have further elucidated the agent. The agent is presumed to be a virus on the basis of epidemiological data, negative laboratory cultures, lack of response to antibiotics, and the absence of prolonged convalescence. The literature was searched for reports of a similar epidemic where an agent had been isolated.

The parainfluenzae group has been associated with similar outbreaks in hospitals but the incubation period was 4 days. (3) Type 3 is particularly associated with bronchiolitis and bronchopneumonia in the 0-3 years age group. The respiratory Syncytial virus (RSV) causes explosive outbreaks in preschoolers. The incubation period was reported at four days, but there was great clinical similarity to this report. Sixty-three per cent of all cases below three years old where the RSV was isolated, had well circumscribed, patchy infiltrates at the lung bases posteriorly. Rales persisted after afebrility by 3 to 4 days. (4) This virus appeared in epidemics during March, April and May in 1961 at Philadelphia. (5)

## Future Research Aspects

The relative isolation of Alaska communities has proved in the past beneficial for the study of infectious disease (6 & 7). The Alaskan Indian communities of Southeastern Alaska offer an unique location to study the seasonal distribution of viral agents causing respiratory disease. Clinical material is plentiful, and constant. In 1963, 31% of all pediatric admissions to Mt. Edgecumbe Hospital (172 of 538) were for respiratory disease excluding bacterial and tubercular pneumonias. In 1964, 15% of all admissions (1575) were in this group. Some communities have stable populations, and few cases would be lost for follow-through. They are accessible by air or water travel year round, although relatively isolated. Electric power is available. Their populations are co-operative and knowledgeable—Hoonah particularly. (8) There is no language barrier.

It is hoped that reports such as this will stimulate research centers to take advantage of the above aspects to study the natural history of respiratory diseases as it occurs in a community. The advent of vaccines effective against several respiratory viruses is upon us (9) and yet we are ignorant of the nature of most respiratory epidemics in Alaska.

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# THE USE OF DMSO (Dimethyl Sulfoxide)

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*Presented at the 20th Annual Meeting of Alaska State Medical Association, Fairbanks, Alaska, May 26, 1965*

## Introduction

Dimethyl Sulfoxide, or DMSO as it is now more commonly known, is a by-product of the paper pulp industry and has been used for many years as an organic solvent. It is currently used, among other things, as a solvent in the manufacture of certain synthetic fibers. The synthetic fibers of rayon polyurethane and acrylic are rapidly destroyed by DMSO.<sup>1</sup> It is a colorless, almost odorless, heavy liquid that is readily miscible with water as well as many organic compounds. It is relatively stable at room temperature.

The original work on the medical applications of this drug has come from the University of Oregon Medical School, but it is now used by a number of investigators in many parts of the United States as well as Europe. The drug is still in the experimental stage. It is used in both human and veterinary medicine and is used as a vehicle in providing protection to plants and trees against certain diseases. The latter observation was one of several that ultimately prompted Dr. Jacob and his group to use DMSO in animal experiments and later in humans. Some of the initial animal studies involved the topical use of a 100% solution of DMSO on third degree burns. It was noted that this application prolonged animal survival and seemed to promote more rapid healing. Perhaps one of the reasons for the apparent favorable effects of this topical application was that infections were reduced. Other animal experiments involved the use of this compound topically to determine its anti-inflammatory potential when the soft tissues were injected with a phlogistic agent. Still others evaluated the potential of DMSO to carry various dyes and compounds through the skin and into the circulatory system.

The results of the animal experiments showed that DMSO is rapidly absorbed into the circulatory system when applied topically, and carries other topically applied agents through the skin.



*Dr. Isaak*

They also showed that it possesses some anti-inflammatory and analgesic properties. Although the drug was administered by various routes (topically, intravenously, subcutaneously and orally), the topical administration seemed to be as or more effective than any other route. On the basis of these results in animals it was felt that perhaps it may be useful in certain conditions in humans and after clearance through FDA, experimental studies in man were started.

## METHOD OF APPLICATION

DMSO is applied topically in a solution strength from 50 to 90 percent. Any solutions of less than 90 percent strength are easily made by the addition of water. Certain body areas seem to be more vulnerable to skin irritation from DMSO application. These areas are: neck, axillae, face, volar surfaces of the knees and elbows. In these areas it is desirable to use a more dilute solution. The solution is applied in amounts of 4 to 30 ml per application with a cotton applicator. It may be used from once to four times daily depending on the degree of response and the amount of skin irritation. If fingers are involved they can actual-

ly be immersed in the solution. The length of treatment may range from one day to a year and may be continuous or intermittent. It is usually desirable to cover a much larger area than is actually involved. For example, if one is treating a subacromial bursitis, it is best to cover the entire shoulder area, including the proximal half of the upper arm. If treating an acute ankle sprain, it is best to cover the entire ankle, foot and the lower one half or two thirds of the leg. Applications should be liberal enough so the skin is dripping wet. From 30 to 40 minutes should be allowed for complete absorption.

## SOME CLINICAL APPLICATIONS OF DMSO

This discussion will not attempt to include all clinical uses of DMSO inasmuch as they are not only numerous but many are still in the very early stages of investigation.

At present the most promising applications of DMSO in medicine are in musculoskeletal disorders. Some of these disorders include acute and chronic bursitis, sprains, contusions, gout, osteo and rheumatoid arthritis. It has also been used with some degree of success in burns, scleroderma, varicose and decubitus ulcers, psoriasis, Dupuytren's contracture, thrombophlebitis, sinusitis and tic douloureux.

## RESULTS

Although my experience with DMSO is still very limited, a few general conclusions seem to coincide with those of others whose experience with it is considerably greater. In general it can be stated that the more chronic the condition, the slower the response. When improvement of a chronic condition occurs and treatment is discontinued too soon, the condition tends to revert toward its pretreatment status. Improvement may again be obtained by reinstituting treatment. In order to maintain some degree of accuracy in evaluating the results of DMSO, it is very desirable to avoid its use in neurotic patients. This is especially important if the severity of the condition is not evident on clinical, X-ray, or laboratory examination, and the investigator has to rely on the patient's own evaluation. In addition, the occurrence of any unrelated symptoms may be attributed by the patient to the medication.

I have used DMSO in 18 patients from one day to three months. The reason for the small series

has been primarily due to difficulty in obtaining a sufficient quantity to maintain treatment in those started and initiate treatment in new cases. I have limited treatment to those patients in whom I felt functional complaints were minimal. Some were treated only one or two days and several have been treated intermittently for two or three months.

The following are a few brief case histories of patients treated and the results. **Case One:** 42 yr. W/M with a lateral epicondylitis of the elbow for 2 to 3 month; received no benefit after 3 applications so he discontinued it. **Case Two:** 36 yr. W/M Cat operator with left shoulder bursitis and a lateral epicondylitis for 6 months. had been treated 8 months previously with steroid injection of the lateral epicondyl and shoulder with good results for 1 month. After 4 applications of DMSO his pain was completely relieved in both the shoulder and elbow and he discontinued treatment. He has had mild recurrences every 2 to 3 weeks each of which was relieved completely by one application. **Case Three:** 35 yr. W/M car parts salesman with a traumatic bursitis of the right shoulder for 3 months had a 4 day relief by injection of steroid. A second injection produced no benefit. Heat, ultrasound and phenylbutazone were all without benefit. DMSO was applied for 3 days without benefit and patient discontinued treatments. **Case Four:** 38 yr. W/M with progressive rheumatoid arthritis in the upper and lower extremities, for 5 years had been on 10 to 20 mgm prednisilone daily for almost 2 years, plus 50 to 75 grains aspirin daily which kept him quite comfortable. He was taken off prednisilone with a marked exacerbation of his disease. ACTH was given intermitently for 3 weeks with very little benefit. DMSO was used for one week after which a 65% improvement was noted. Continued use for 2 more weeks provided an additional 5 to 10% improvement. He ran out of medication and within a week his symptoms became worse. DMSO was re-instituted and again he improved. He has used DMSO intermitently for about 3 months and is continuing the treatments as his symptoms require. **Case Five:** 32 yr. W/M with a severe ankle sprain had moderate relief of pain 45 minutes after the application. He called later and stated that after several hours the pain got worse again but did not return for treatment. **Case Six:** 53 yr. W/F with acute bursitis of a right shoulder for 5 days restricting movement to 25% of normal after 2 applications got 50% relief. The improve-



ment continued with each application and by the 3rd day she was entirely free of all symptoms and had complete range of shoulder motion.

## PRECAUTIONS AND CONTRAINDICATIONS

It is recommended that DMSO not be used in children or in pregnant women until adequate toxicity studies are available. It should be used with caution in the presence of liver or kidney disease. It should not be used for the treatment of insect bites which may be aggravated by the drug. Care should be exercised to avoid application of DMSO where other drugs, soaps or lotions have been applied. DMSO will damage many synthetic fibers so contact with such types of clothing must be avoided. X-rays and laboratory studies are frequently necessary before instituting treatment with the drug.

## SIDE EFFECTS AND TOXICITY

So far, side effects from the use of DMSO have been few and relatively minor. Most patients experience a light to moderate erythema and itching which lasts from 20 to 35 minutes. A few patients have actually had blistering of the skin. Some patients complain of the odor that is common with continued use. This is described as a smoked oyster or garlic odor. Dryness of the skin is a common effect when DMSO is used more than a few days but generally this is not too disturbing; occasionally a generalized dermatitis may result from local application. Although lethargy and fatigue have been reported,<sup>3</sup> this is an uncommon occurrence.

Laboratory studies which include total protein, A/G ratio, alkaline phosphatase serum transaminase, CBC, sed rate, prothrombin time, serum bilirubin, BUN, and UA have shown very little or no evidence of toxicity even after prolonged administration. Two of my patients with rheumatoid arthritis had pretreatment sedimentation rates of 47 and 58 mm/hr. These dropped to a normal or near normal level after 1 week.

Dimethyl Sulfoxide is still an experimental drug and will probably not be released for general use for one or more years. Although toxicity studies so far have shown no serious side effects, the drug has not been used long or extensively enough to rule out serious toxicity with prolonged use. DMSO is not a panacea for all aches and pains as the public press has implied; however, it has been shown to be effective in treating a variety of musculoskeletal and skin disorders. It is possible that important medical applications of this drug may yet be found that so far have not been considered or adequately studied. In general it can be stated that the more chronic the condition, the longer it will take for a response to occur.

## REFERENCES:

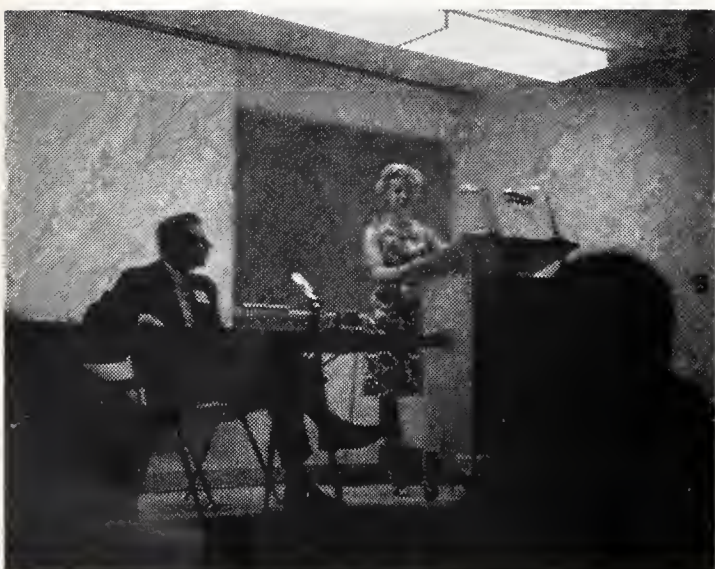
1. Rosenbaum, E. E., Herschler, R. J., and Jacob, S. W.: Dimethyl Sulfoxide in Musculoskeletal Disorders, J.A.M.A. Vol. 192 No. 4 pp. 309-313, 1965.
2. Ibid
3. Ibid



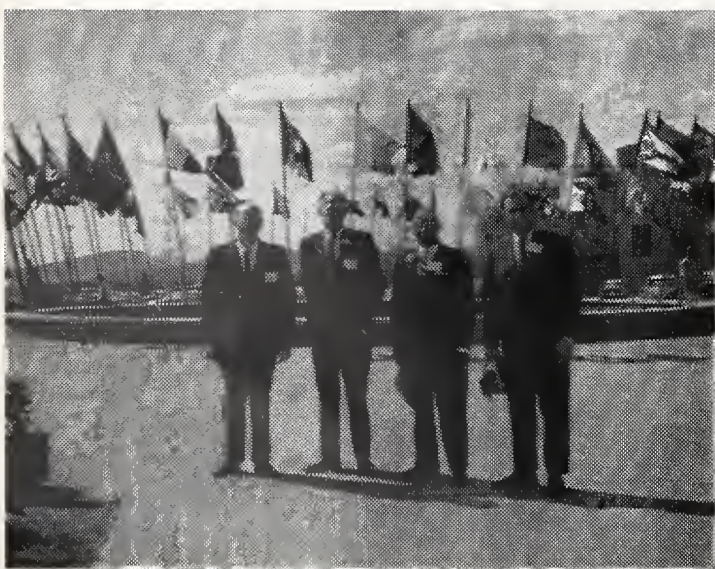




*Public Health Reports*



*New Look in Mental Health*



*In Picturesque Surroundings*



*Dr. Philip Moore receives Robbins Award*



*Wildlife . . .*

## CONVENTION

### 20th Annual Alaska

Fairbanks and

May 26 - 29

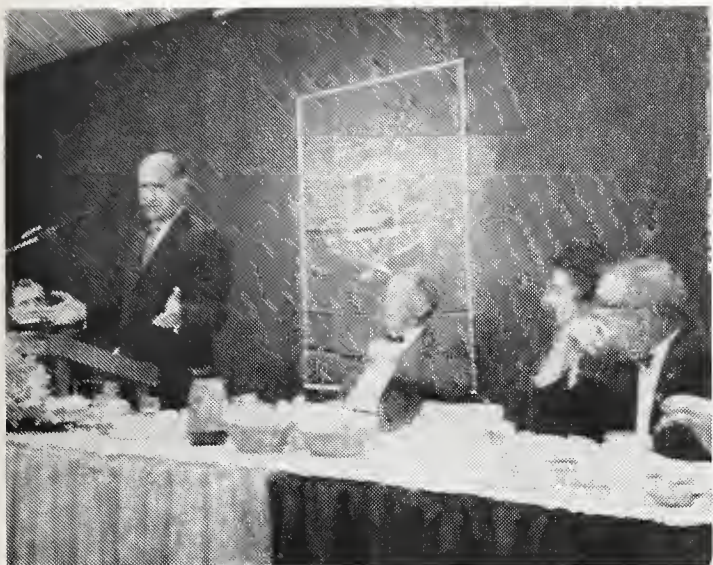


## CANDIDS

### State Medical Convention

College, Alaska

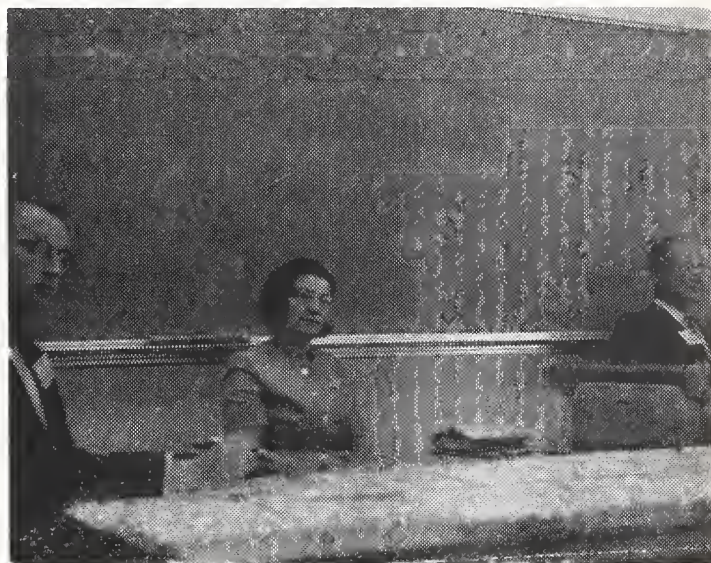
1965



*Dr. Edward Annis addresses banquet*



*Business in session*



*"We here highly resolve"*



*. . . College style*



*A.M.A. listens in*



## PRESIDENT'S PAGE

ROYCE H. MORGAN, M.D.

*President Alaska State Medical Association*



*Dr. Morgan*

Now that the excitement and honor is beginning to fade, I am feeling strongly the burdens of the responsibility which this office holds. Just recently I was reading from the book of First Kings where Solomon said, "And now, Oh Lord my God, Thou hast made Thy servant king, in place of David my father, although I am but a little child: I do not know how to go out or come in. And Thy servant is in the midst of Thy people whom Thou hast chosen, A great people. Give Thy servant, therefore, an understanding mind to govern Thy people, that I may discern between good and evil: For who is able to govern this Thy great people?" I thought as I read this, "Brother, I know just how you feel!" I too am seeking wisdom from the same source.

The light began to dawn back in February when I was visited by our legislative representative, Attorney Frank Dougan, from Juneau. He packed a lot of information into the time we spent

together before his plane left that evening. This was supplemented by another afternoon and evening meeting with Frank when I stayed over in Juneau following the meeting of "The Governor's Committee on Mental Health" of which William Rader M.D. is chairman. I think we have a fine representative. I have heard some criticism because some legislation was passed, and already on the books before many of us heard about it. I think this was primarily because our president, Joe Deisher, had already left Alaska and several others including Frank were not aware of the exact departure date. In fact I just had a letter forwarded to me which arrived in my office July 12. It had been written Feb. 24 by Frank Dougan giving him the run down on four senate bills. This is one of the problems of letters, and I plan to use the telephone as much as is necessary to know what is going on during the next Legislature, and also to keep Mr. Dougan informed of our stand concerning medically related legislation.

Since our state is new and our laws are new, we have a real opportunity in our hands to have a part in producing the type of legislation we need and want. However, if we fail to take this opportunity it is frightening to see how much damage can be done to us in just one short, little legislative session. Some important legislation concerning para-medical groups is in committee at this time and will be bouncing right out in the 1966 session and we need to be ready for it.

I would like to share this letter which I wrote to James Hunley M.D., the Deputy Surgeon General of the United States, with you. I called and talked to Dr. Hunley the week prior to the State Meeting when I was in Washington, D. C., for the A.M.P.A.C. National Workshop. He solicited the stand of the Alaska State Medical Association, and I told him that after our meeting the following week we would have definite information for him. These resolutions are very good, and I think our logic is good, but it is a shame to have them arrive after our State Legislature has already acted. We should have been there with this information to the State Legislature and this letter would not have been necessary in the first place.



207 E. Northern Lights Blvd.  
Anchorage, Alaska  
June 22, 1965

James Hunley, M.D.  
Deputy Surgeon General  
Surgeon General's Office of  
the United States of America  
Washington, D. C.

Dear Doctor Hunley:

At the 20th Annual Meeting of the Alaska State Medical Association, May 26-29, 1965, the State Association passed three resolutions which make clear its stand concerning House Resolution No. 22 and House Bill No. 244 of the Alaska State Legislature. This resolution and bill are to provide non-emergency medical and dental care to the non-native population of Alaska by using U. S. Public Health Service physicians.

Our resolutions not only oppose the Public Health Service offering non-emergency care to the non-native population but they offer solutions to this problem which we think are reasonable. The resolutions are as follows:

#### RESOLUTION NO. 25

WHEREAS the Alaska State Legislature has passed H.D.R. No. 22 urging the Secretary of Health Education and Welfare to permit U.S.P.H.S. personnel to provide regular medical or dental care to non-natives in areas of Alaska where no private medical or dental service is available, as well as H.B. No. 244, an Act permitting treatment of residents in isolated areas by Public Health Service dentists and physicians, and

WHEREAS the Area Director of the U.S.P.H.S. Alaska Native Health Service has solicited a statement of the stand of the Alaska State Medical Association on this issue;

RESOLVED that the Alaska State Medical Association oppose this plan for the following reasons:

1. The U.S.P.H.S. does not now and never has had sufficient medical and dental personnel to meet the needs of its federal beneficiaries;
2. It would license the U. S. Government to practice medicine on the average U. S. citizen in the area concerned, an unprecedented move;
3. It would discourage the possibility of the development of traditional private medical services and facilities in the as yet undeveloped areas of Alaska.

BE IT FURTHER RESOLVED that the Alaska State Medical Association offer as a more reasonable solution of the non-emergent needs of non-natives in isolated areas a program of encouragement of private physicians and facilities in these areas, and that this be encouraged by the U.S.P.H.S. by offering contracts to private physicians moving into or already practicing, in the areas involved.

#### RESOLUTION NO. 10

WHEREAS certain Alaskan communities, regularly serviced by private physicians and medical facilities provide borderline subsistence for these services because of insufficient non-beneficiary population, and

WHEREAS U.S.P.H.S. beneficiaries living in or near these same communities require considerable expense for transport to U.S.P.H.S. facilities for medical care;

THEREFORE, BE IT RESOLVED, that the Alaska State Medical Association encourages the negotiation and extension of suitable U.S.P.H.S. medical care contracts with the private physicians and institutions in these areas to **provide for the medical care of U.S.-P.H.S. beneficiaries in their own communities.**

#### RESOLUTION NO 11

WHEREAS the U. S. Public Health Service accepts responsibility for the comprehensive medical care of the Alaskan native beneficiaries, and

WHEREAS mental health and competency is undeniably a part of comprehensive medical care;

THEREFORE, BE IT RESOLVED, that the U. S. Public Health Service assume full financial responsibility for the mental health care of the beneficiary population.

To illustrate the problem of U.S.P.H.S. not caring for the health needs of its natives, I am enclosing a sheet of the admissions to the Alaska Psychiatric Institute of 1963 and 1964. You will note there were 260 Caucasian admissions and 207 native admissions. I am told by the API psychiatrist, who prepared this admission sheet for me, that the resident population of the Alaska Psychiatric Institute is over half native.

Native patients are flown out of areas where a private physician is located for care at native service hospitals at some distant area instead of contracting with the local private physicians. I understand this happens in many areas and am personally aware that patients are flown from Cordova to Anchorage for care when two physicians and a hospital are located in Cordova.

We realize fully the moral obligation to render emergency care when an emergency exists. You are already doing this. The Alaska State Medical Association realizes that our State is a frontier, pioneering area, and we are trying to encourage private physicians to come into our remote areas. Further, we are trying to hold our physicians who are practicing in the more remote areas. One of the reasons we have lost some of these doctors is that they cannot get away from a community because there is no one to cover their practice. I am personally aware that Dr. Fenger of Homer did not leave this city for an eight-year period. To summarize from our Resolution No. 25, we have resolved "that a committee be appointed with the power and funds to arrange with interested medical schools for an orderly succession of physicians-in-training to accept locum tenens in Alaska . . . so private physicians can have vacation and educational leave on a scheduled basis."

Lastly, we wish to point out that most of the non-native population live in these remote areas by choice. They have placed themselves in these areas realizing there is some inconvenience and hazard involved in this decentralized location. Further, they are usually paid higher wages to compensate for employment in these remote areas.

Additional facts and logic could be applied to this present problem but I believe that adequate information is presented for you to understand our problem and our position on this matter.

We hope you will help us encourage private physicians to come into our State and not discourage their coming by having U. S. Public Health Service physicians filling their places.

Very truly yours,

Royce H. Morgan, M.D.

cc: Dr. Holman Wheritt, Alaska Native Service Hospital, Anchorage.

Dr. A. B. Colyar, Arctic Research Center, Anchorage.

Dr. Smith, U. S. Public Health Service, San Francisco, Calif.

U. S. Senator E. L. (Bob) Bartlett.

U. S. Senator Ernest Gruening.

U. S. Representative Ralph Rivers.

Dr. Robert Wilkins, Anchorage.

I think our state meeting in Fairbanks was a fine success. We had some real outstanding speakers, and a very interesting scientific program. I want to thank the Convention and Program chairman as well as the Fairbanks doctors who helped in various ways as moderators, and hosts. Also, the doctors' wives played a big role in showing us real warm hospitality. I was personally picked up at my plane, fed a home-cooked meal, given a ticket to the Chicago Symphony Orchestra, and toured around town. I had my money's worth and was ready to come home even before the Convention started.

The time scheduled for business sessions proved to be quite inadequate. We are going to schedule more time for the business of the Society at the meeting next year. This is about the only shortcoming of the entire State Meeting that I wish to admit to you at this time. If you do not know our errors, then I sure don't want to enumerate them, one, two, three, for you in this article.

There are many committees in our Society, and they do much of the work for our society. I have learned, as I am sure you have, that people who are appointed to committees without their consent, or who do not want to serve, usually will not serve even when they are appointed. Therefore, I am listing the committees which our Secretary, Mrs. Ayerst, gave me today. Please look them over and let me know which committee you will be willing to serve on.

#### COMMITTEES

BUSH MEDICINE: (Formerly Med. Care in Outlying Communities Committee)

CHILD HEALTH

CONSTITUTION AND BY-LAWS

DISASTER CARE

INFECTIOUS DISEASE

LEGISLATIVE

MENTAL HEALTH

OCCUPATIONAL HEALTH

PROFESSIONAL RELATIONS

PROGRAM

PUBLIC INFORMATION

TUMOR REGISTRY

REHABILITATION

MEDICOLEGAL

INSURANCE FORM

TRAUMA

The adoption of the realistic fee schedule for our State Society was one of the fine accomplishments of our State Meeting. Bob Wilkins told me just day before yesterday that the copies of the 1964 California Relative Value Scale had just arrived. He is in the process now of getting these mailed out so that you should be able to use it before the month is over to find out just what the recommended current fee is for your favorite operation. I want to emphasize that this is a recommended schedule, but it does not mean that your fee has to be "What's in the book."

Perhaps one of the most significant accomplishments of our State Meeting was that we are going to secure an Executive Secretary for our Society. At the Counsel Meeting Saturday afternoon following the adjournment of the State Meeting we agreed that the first step that we would need to take in getting an Executive Secretary was to obtain a job description. I have obtained this description from our AMA Field Representative, Mr. J. Sherwood Williams. I have mailed out copies to every member of the Counsel and have some copies left if anyone would like one. I am supplying one to our Editor, Betsy Tower, and will leave it to her discretion if she can spare the space to include it in our Journal.

#### THE MEDICAL SOCIETY EXECUTIVE SECRETARY — HIS ROLE AND RESPONSIBILITIES

There are many similarities and sharp contrasts between the executive functions of the Medical Society Executive and the other executives of other professional organizations and businesses. The similarities need no comment for they are apparent—the contrasts are a little more subtle.

Almost every Executive—whether he works for a bank, chamber of commerce, or a medical society—is responsible to a superior officer or a board of directors. The difference lies in the fact that with most of these other areas the superiors are comparatively permanent in their positions, while in a medical society his bosses may change and usually do with every annual meeting. This turnover in officers very often brings about changes in policy and organization. This means that the Executive must be a flexible person with a deep loyalty to his organization and an annual new loyalty to new officers. This requires a keen sense of diplomacy and tact.

In most medical societies the executive secretary is the only permanent officer. He serves as permanent liaison between each incoming administration officers, boards of trustees and committees, and all



proceeding administrations. His buildup of knowledge over the years becomes invaluable to his society. This means that with each passing year, if he is the right man to begin with, his position becomes more and more important to that society.

The good medical society executive automatically acquires influence—because “knowledge is power,”—influential power to make or break his organization. No medical society executive should underestimate the importance of his position, but he must be extremely careful not to misuse it for personal advantage for himself and friends.

One thing that is very important, and something that a new executive secretary should insist upon as a condition of employment, is a clear “chain of command.” It should be written in the society’s by-laws. The Executive must know exactly to whom he is responsible, from whom he takes his direction, to whom he reports, who is responsible to him, exactly who makes what policies, and when and how.

As in all matters, the new Executive can draw on his knowledge and experience to suggest or advise on how the chain of command might best work, but he should not in any way attempt to establish these policies.

In fact, the medical society executive does not hold a job, but a multiplicity of jobs. Here a few of the more responsible of his tasks:

1. Combined recording and corresponding secretary, and in charge of all membership records.
2. Varied responsibilities of executing official documents, attesting others, preparing tax reports and increasing number of other governmental papers, certifying records for licensure applications, etc., etc.
3. Custodian of records and archives; he needs to understand filing systems.
4. Keep the society’s financial records.
5. Convention manager; must understand programming.
6. Public relations practitioner, including membership relations, press, radio and TV, public speaking, creative writing, critical editing, plus several fields of salesmanship such as advertising for the journal and bulletin, and sale of exhibit space.
7. Editor, managing editor, or business manager of possibly a variety of the society’s periodicals and brochures. He must understand printing and know how to deal with printers.
8. Part time lobbyist or guide the policies of an employed lobbyist. He needs close contact with local and state legislative bodies, state and national governmental offices and with the Congressional delegation.
9. Traveling man. He should represent the society in selected national meetings, and also

visit with the various component of societies on a regular basis.

10. Personnel director if society has additional staff personnel.

The principal function of an executive secretary is to accept policy direction and instruction from the elected officials, board of trustees, councils and committees, and then perform all of the administrative duties in the names of that board of elected official.

In addition to the above, the Executive’s time must be used for productive thinking. He must constantly develop new ideas and projects to strengthen the society so that he can suggest them to the appropriate officials of his society. He should constantly review successful programs of other medical societies to see if they could be reworked and applied to his society.

The executive office should be the nerve center of the society. The Executive should keep up to date on all things the officers, boards and committees are doing and he should communicate these facts to other appropriate persons of the society and public. The Executive should have no secrets from his immediate superiors and board.

The following are some of the qualifications necessary for a medical society executive:

1. Basic talents and qualities must be intellectual honesty, diplomacy, tact, common horse sense, and a dedicated loyalty to the medical profession.
2. Ambition tempered with a real desire to be of public service.
3. At least a liberal arts education with emphasis on writing, speaking, psychology, science and finance. Law is also helpful. Prior experience with other types of organizations or as a teacher, will often be able to replace certain aspects of missing formal education. Sales experience in some fields is helpful.
4. The Executive Secretary must “know his place,” or learn it in a hurry. He must sincerely offer and give respect where respect is due, and he must command respect where respect is his due.
5. He must be able to hire and train other people to understudy every part of his job.

I am looking forward to this year as President of our Society. I realize that the job takes time, and I have already taken time from my practice, my home, my flying, and my church in order to do this job. I feel that it is important. Will you work with me and help me? Together we will see one of the greatest years the Alaska State Medical Association has ever had!

## EDITORIAL PAGE

### THE PRICE OF PROGRESS

To those of us who were in attendance at the 20th Annual Convention of the Alaska State Medical Association one fact was obvious—that inflation is here to stay! Brought up, as many of us were, in the parsimonious '30's, it remains hard to adjust to the fact that there is no such thing as a good ten cent cigar and that a dime candy bar now is smaller than the ones we used to buy as kids for a nickel. As a matter of fact, the only thing a modern day demineralized nickel will buy is a pack of chewing gum.

Recently we have all received copies of the California Relative Value fee schedule which was adopted at the recent Medical Association meeting as a "market-value" guideline for fees in Alaska with medical and surgical units set at \$8.00 and the X-ray and laboratory units set at \$7.50. The resultant fees for various surgical procedures and prolonged medical care of difficult cases seems staggering at first to us children of the Depression. They will seem staggering also to the various governmental agencies and insurance carriers with which we as physicians do business unless they truly represent the customary fees charged in the community. And if the customary fees charged do not coincide with the fees voted as fair by the majority of physicians attending the State Meeting — wherein lies the rub?

At this same meeting it was resolved that the the State Association hire a trained Executive Secretary even if it were necessary to raise the dues accordingly. Some will gulp and refuse membership in the State Association because it is "too rich for their blood." But is it really too rich for the blood if judged in light of the adopted suggested fee schedule? If we as physicians feel that our time is worth more on an hourly basis than that of a plumber, should not our "Union dues" be at least as much as those of a plumber. The Alaska State Medical Association, which is the organized voice of the private medical practitioners of Alaska, can not be expected to be effective in public relations, in swaying legislative opinion, in helping keep Alaska adequately staffed with private physicians, and in the many other potential operations of a Medical Association, when relying primarily upon the voluntary labor and enthusiasm of practicing physicians who are already worked beyond their own capacities and whose only possible reward for a job well done can be the gratitude of fellow physicians, which is usually not forthcoming.

There are many jobs for a qualified Executive Secretary to tackle. Included among them is improving this journal and making it a valid organ of communication among physicians of the State. Included also should be the planning for medical library facilities and eventually an Association building. Inflation is here to stay! It is the price of Alaska coming of age.



# MUKTUK MORSELS

A COLUMN DEVOTED TO  
MEDICAL NEWS IN ALASKA

*Compiled by*  
**HELEN S. WHALEY, M.D.**

**GENERAL:** The first Mead Memorial Neurological Clinic was held on June 10, 11, and 12 in Anchorage at the Alaska Crippled Children's Treatment Center and the ANS Hospital Solarium. This was the joint venture of the Elks Cerebral Palsy Commission, The National Foundation, the Alaska Crippled Children's Association, the Alaska Department of Health through its Maternal and Child Health Branch, the Alaska Native Health Service Hospital, the United States Air Force and the United States Army, the Anchorage Borough School District, the Alaska Methodist University, and the University of Alaska's Community College, Anchorage. The distinguished visiting consultants were Dr. Richard Olmstead, Professor of Pediatrics at the University of Oregon School of Medicine, who is interested in childhood neurosensory communication disorders, and Dr. Richmond Paine, one of the outstanding Pediatric Neurologists of the world from The Children's Hospital of the District of Columbia, Washington, D.C. Over seventy children with various neuromuscular, neurosensory communication disorders, and unusual types of school and learning problems were evaluated. Outstanding lectures on childhood seizures, the amino-acidurias, the neurologically handicapped child, the neurosensory handicapped child, and a round-table on learning disorders were presented.

During the early part of July the Flying Physicians again visited Alaska. Dr. Michael Beirne was Chairman of this.

The Alaska Heart Association under the leadership of President Dr. Paul Isaak is arranging the Annual Cardiac Clinic from August 30 to September ... The visiting physicians will be from the Mayo Clinic Group again and include Dr. William W. Weidman, Pediatric Cardiologist, Dr. Ralph E. Smith, Internal Medicine Cardiologist, Dr. George D. Davis, Radiologist, and Dr. Robert B. Wallace, Surgeon.

**PALMER:** Dr. Clarence Bailey, after many years of practice in this community, has accepted a position with the Veterans Administration at Prescott, Arizona. The wide population area of Willow, Talkeetna, Wasilla, Palmer, and part of the Eagle River-Chugiak region are now served by only two physicians, Drs. Walter Cunningham and Vincent Hume.

**KODIAK:** Dr. Bob Johnson, with a crew of four, including his two pre-teenage sons and Dr. Whaley of Anchorage, recently sailed (partially with the help of a motor) his earth-quake damaged 38-foot ketch from Seattle to Kodiak. The most challenging part of the trip was from Seward to Kodiak because of a tremendous storm. Dr. Bruce Keers, long-time associate of Dr. Johnson, has returned to a radiology residency in upstate New York. Dr. Johnson is the single remaining physician in this very active community.

**HOMER:** This community is still without the services of a resident physician. Drs. Paul Isaak and Elmer Gaede fly into the community occasionally for emergencies and to hold clinics. Dr. Edwin Kraft of Anchorage has recently been holding a clinic one day weekly, utilizing his new Bonanza for transportation.

**KETCHIKAN:** Dr. R. W. Carr had a family reunion in Tacoma, Washington, recently when his son, Bruce, graduated from the University of Puget Sound. Dr. Carr then proceeded to Vancouver, where they took the ferry to Prince Rupert and from there to Ketchikan. Dr. Carr also attended the Ogden Surgical Society Convention in Utah.

**SITKA:** Dr. Robert Shuler was recently elected President of the Sitka-Mt. Edgecumbe Medical Society for 1965 and Dr. George Wagnor of Mt. Edgecumbe was welcomed as a member.

Dr. T. M. Moore was reelected chief of the Medical Staff of Sitka Community Hospital.

Dr. Edward Spencer, along with Dr. R. H. Harrell of Anchorage, served as a delegate to the convention of the AAGP in San Francisco in April.

**FAIRBANKS:** Dr. Edward Meyer is Chief of the Medical Staff of the St. Joseph's Hospital for 1964-65. With the help of the Sisters, a new professional library has been started at the Hospital. Dr. Waldo Hanns, a 1952 graduate of the Stanford University School of Medicine, has joined the Tanana Valley Medical and Surgical Clinic as an orthopedist. He was formerly from Scottsdale, Arizona. Dr. Jean Arnold has left Fairbanks and the Tanana Clinic as her military husband has rotated. Dr. Donald Tatum, who has been active in many organizations in Alaska medicine, including the State Medical Association and the Alaska Heart Association, is leaving to take an allergy residency at the National Jewish Hospital in Denver, Colorado, and then plans to practice in Oregon. Dr. Edward Meyer attended the American College of Physicians meeting in Chicago and became a Fellow during March. Dr. Nicholas Deely was recently elected to membership in the Northwest Pediatric Society.

**ANCHORAGE:** The President of the Presbyterian Community Hospital Medical Staff is Dr. John Tower, Pediatrician, with Dr. Peter Koeniger, Obstetrician, President-Elect, and Dr. Tryon Wieland, Secretary-Treasurer. Dr. Nancy Sydnam is a new board member of the Association of Retarded Children's Group.

New physicians in Anchorage include the following: Charles E. Manwiller, M. D., father of four children, who is a 1957 graduate of the University of Pittsburgh. He was formerly stationed as a medical officer at Wildwood Station, Kenai, Alaska, and served a general practice residency at the Giesinger Medical Center, Danville, Pennsylvania. From 1963 to 1964 he was in general practice at the Heetderks Clinic in Bozeman, Montana. He is associated with Dr. Warren Jones. Dr. Charles St. John has been joined by Elden J. Maxwell, M.D., also the father of four children, who is a 1958 graduate of Baylor University College of Medicine in Houston, Texas. He interned at the John Peterson Hospital in Fort Worth and was in practice with his physician father at the Southwest Memorial Hospital in Cortez,

Colorado, from 1959 to the present. A new radiologist, Paul Scholten, joined the Doctors Clinic. He has recently completed a radiology residency at the University of Michigan Medical School.

Successful candidates of the recent American Board of Surgery Examinations were Drs. Samuel DePalatis of the Doctors Clinic and Michael Hein.

A very eventful past six weeks has taken place for Dr. Robert Billings, who started out the month of May by getting married, then going to Europe, and later attending the Fairbanks Medical Meeting, and finally having a major fire in his office, requiring that he move to new quarters. Dr. Don Val Langston attended an AMPAC meeting in Washington, D.C. during the latter part of May 1965. Dr. Asa Martin is representing the Alaska Airlines at a conference in Europe. Dr. George Wichman spent several weeks near the top of Mt. McKinley but was unable to complete the climb because of the severe storms and north wind. Dr. J. Ray Langdon was the only private physician attending the Western Interstate Commission for Higher Education meeting in Fairbanks in early May on medical education for the State of Alaska. Drs. Theodore Shohl and Fred Hillman assisted Mr. Willard Straight in a recorder workshop for the Anchorage Music Festival.

## ANNOUNCING THE DATES

of the

Tenth Congress of the Pan-Pacific  
Surgical Association:

PART I—September 20-28, 1966

in

Honolulu, Hawaii

Second Mobile Educational Seminar:

PART II—September 28-October 10, 1966

in

Japan and Hong Kong

PART III—September 28-November 1, 1966

in

Japan, Hong Kong, The Philippines, Thailand,  
Indian, Singapore, Australia and  
New Zealand



# *Alaska Department of Health News*

Dr. Jack K. Lesh, Chief, Branch Maternal-Child Health and Southeastern Regional Health Officer, prior to his resignation last year to attend the University of California, where he recently was awarded a Master of Public Health degree, returned to Juneau on June 1, 1965, to resume his former duties.

\* \* \* \*

A 200-bed Package Disaster Hospital arrived in Ketchikan about June 16, 1965, and is the twelfth of the Package Disaster Hospitals to be located in Alaska. It will be stored in the old Ketchikan Hospital and in case of major disaster will be unpacked and set up there or in a nearby school.

The PDH is valued at about \$45,000, and is placed in Ketchikan through a formal loan agreement between the Alaska Department of Health and Welfare, the Alaska Disaster office, and the U.S. Public Health Service. It has facilities capable of providing for austere but adequate medical care for up to 30 days and includes the following sections which allow it to function independently: admitting and triage (sorting patients); operating rooms; wards; x-ray; laboratory; pharmacy; and central supply. There are generators for auxiliary power, should the local electrical supply be disrupted. Also included is a 1,500 gallon water tank with pumping unit for emergency water supply.

The PDH is subject to a Federal quality-control and inspection program which seeks to combat deterioration and assure the hospital's constant readiness and usability, and it is the responsibility of Alaska's Division of Public Health and Disaster Office to see that safe, satisfactory storage conditions are provided at the community level.

The 11 other Alaska communities in which Package Disaster Hospitals are stored are: Sitka, Juneau, Homer, Kenai, Cordova, Nome, Seward and two each in Anchorage and Fairbanks.

The Hoonah Day Care Center for children of seasonally employed parents is in operation again for the second consecutive summer and will run until August 28. Some 40 infant-to-12-year old children of fishermen and crab cannery workers receive day care at the Center. The Hoonah school system is operating the center with the assistance and consultation of the state Welfare division. School facilities are being used. Parents pay in accordance with their ability to pay, number of children in the family, and other considerations.

U. S. Children's Bureau program and funds largely support the Day Care projects, in cooperation with the Welfare division, the United Presbyterian church and the Bureau of Indian Affairs. Teen-age child care workers and helpers for the project are being provided through the Neighborhood Youth Corps of the Office of Economic Opportunity, according to the program arrangements.

In addition to creative and educational activities, children attending the Center have recreational periods and training in health, sanitation, nutrition and general health care. Helping prepare for the program was a team from the agencies named above and state Divisions of Mental Health, Public Health, the Governor's Advisory Committee on Day Care, as well as volunteers. Their concerns were childhood development, infant care, general health, food purchase, menu planning, food preparation in addition to activities for the interest and training of the children.

Hoonah residents requested opening of the Day Care Center again this year, and it is hoped that interest of other communities will result in gradual establishment of care centers where they are needed throughout the state for children of working parents.

\* \* \* \*

Alaska's "Work Experience and Training Program" provided for in Title V of the Economic Op-

portunity Act, is scheduled to get under way with the arrival in Juneau June 21 of Daniel Friedman as supervisor.

The State's initial Work Experience and Training program, which will be operated in the Greater Juneau Borough, has been approved with a project grant of \$131,600 to the Department of Health and Welfare. Future projects are planned for Anchorage, Fairbanks, Ketchikan and possibly other areas. Their intent is to increase work skills of recipients of public assistance funds. Work experience projects are approved by the Federal Bureau of Family Services in cooperation with the Office of Economic Opportunity.

The project for the Juneau Borough will provide work and training in three areas: Arrangements have been made with the Juneau-Douglas Community College for classes which will help some 20 public assistance recipients to achieve high school equivalence and thus qualify them for clerical and sales work in the community or for more advanced training under the Manpower Development and Training program.

A second phase will be at the Memorial Day Care Center where public assistance recipients with family responsibilities may enroll for a course in day care and homemaking with the plan of upgrading their skills to make them employable. It is expected that about 20 women can receive this work experience training at this time.

A third phase of the plan, is to provide work experience for men and women through arrangements with the cities of Juneau and Douglas and the Greater Juneau Borough, in a plan for upgrading of skills through work under supervision in general maintenance, light construction, possibly boat harbor jobs, and some clerical work.

\* \* \* \*

As of July 1, 1965, the Alaska Department of Health and Welfare will no longer have responsibility for the Native Sanitation Aide program which was started ten years ago on recommendation of the Parran report. This program in which native Sanitation Aides have been trained and hired by the State of Alaska to work with villages on their sanitation and canine control problems is to be assumed by the U.S. Public Health Service. The following is a portion of the final report of one of the native Sanitation Aides.

**April 8.** This is our first fire since the natural gas hookup over at Browerville. Thomas Brower Jr.'s home. It was one of the old buildings that was built by Charles Brower. Was used as post office, first post office for Barrow, Alaska. No one was at home. T. B.

Jr. was out hunting caribou and the mother of the family was at the Anchorage Hospital. The cause, two small boys playing inside with matches. The building was right next to Thomas Brower's store. The wind was blowing to it. Old Tom saw the smoke from his window so he calls for help via phone to the hospital. Siren was first heard at 1:40 p.m. Then Old Tom shut two valves off on the outside pipelines. Most all the men stop their work to help. About twenty minute time fire truck got across. Also, the fire fighter from the Navy camp came down to fight. Cats with dozers with lots of snow around could not put it out. Lost everything that belongs to the young family. The building made its mind up to be destroyed, it got tired standing up while the modern ones being built around it.

**April 15.** Lloyd Jones, the shopkeeper, start to clean his yard up. He got his cat with boom on and load his body waste barrels on the sleds, haul them out to ocean. Dave Nahkapak was driving.

John Nusinginna doing lots of hauling also. Been hired out as body waste disposal hauler at \$2.00 per barrel. We had ten barrels outside of ours, Gilbert Lincoln home. He haul it out for twenty dollars, one hour twenty minutes time with four-wheel drive truck. So you see Barrow people could keep their yards clean, if they only try.

**April 29.** Herb Baston came this morning. he is the Wien's Tourist guide. Look see if everything was ready. Find they had no house to have Eskimo dance so he borrowed a quonset hut from Mother's Club. He got some of his dancing crew to work on it. Frank Rollund is one of the drummers, also a carpenter, so they try putting a new lining in the hut.

**June 1.** First load of tourists. Six came to see the midnight sun. Altho we have had midnight sun since March 20, but I'm afraid they can't have sunbath out of it.

**June 3.** Am leaving Barrow for the last time, going home to warmer climate at Allakaket. People at Barrow are doing fine. They became sanitation minded. Do things different now. Even is so cold up there, everytime they going shopping they put clean clothes and fixed their hair, also brush their teeth, so we got through to them o.k.

Those shops are doing fine. Shontz's shop is clean, also the Polar Bear Coffee Shop is alright now. Dot is cooking, so it is nice place to eat. Sign off—Oscar Nic-tune, Sr., Sanitation Aide.

\* \* \* \*

Purchase of the 35 additional audiometers has been made possible with \$13,200 in U. S. Children's Bureau funds, and these machines will be placed with itinerant public health nurses. Many of the public health nurses are experienced in using audiometers and Mrs. Henrietta Krantz, speech and hearing specialist, will continue her training work with them and others including teachers, hospital nurses, and interested volunteers. Beginning in September, she will hold training sessions in Fairbanks, Barrow, Kotzebue, Nome, McGrath, Bethel, Anchorage, and Cordova. "By this means, the testing program can be continuous in the communities," Mrs. Krantz said, "and hearing problems can be discovered early enough to make effective treatment possible.



# ALASKA

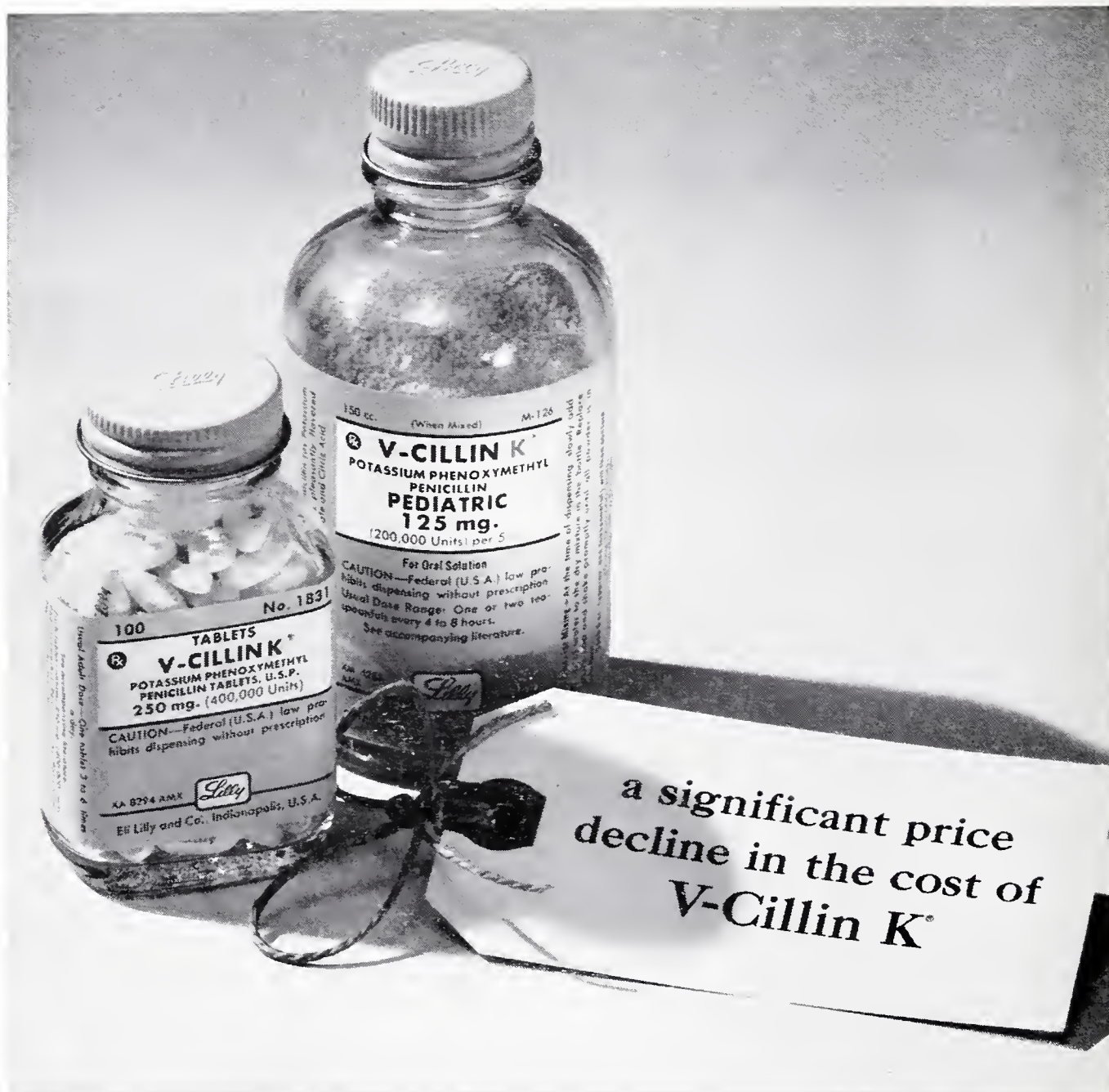
## MEDICINE

Volume 7, Number 3

September, 1965







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September 1965

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# ALASKA MEDICINE

*Official Journal of the Alaska State Medical Association*

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# MENINGOCOCCUS OUTBREAK AT POINT BARROW

DWAYNE REID, M.D., M.P.H.

Field Epidemiologist, Arctic Health Research Center, U.S.P.H.S.  
ANCHORAGE, ALASKA



*Dr. Reid*

During the fall of 1964 six cases of meningococcal infections occurred in Barrow, Alaska. Group B meningococci were isolated from blood cultures in five of the six cases. The recent emergence of Group B strains of meningococcus as an epidemic rather than a sporadic type has been complicated by a definite shift toward sulfadiazine resistance in this group (1). The major problem thereby created is the lack of an effective prophylactic agent which can eliminate the organism from carriers. This development of sulfadiazine resistant meningococci has become a nationwide problem and it is therefore appropriate to summarize some of the clinical and epidemiologic features of the Barrow epidemic, which have been reported in detail elsewhere (2, 3).

## ACKNOWLEDGEMENTS

We are indebted to Dr. Thomas Corbett, Medical Officer, Alaska Native Medical Center and Dr. Jacob Brody, Chief, Epidemiology Branch, AHRC for aid during the epidemic; to Dr. Holman Wherritt, Area Director, Division of Indian Health, Dr. Thomas McGowan, Director, Alaska State Department of Health, and Col. H. G. Kreiger, Surgeon, Alaska Command for administrative support to Dr. Harry Feldman, Department of Preventive Medicine, Upstate Medical Center, Syracuse, New York, Dr. Theodore Eickoff, CDC Atlanta, Georgia, and Dr. Reuel Stallones, University of California for consultation. Specimens were collected by Theresa Overfield, R.N., AHRC, and the bacteriology was performed by Bob Huntley, AHRC.

## SUMMARY OF THE BARROW OUTBREAK

### The Cases.

The significant clinical and laboratory findings in the Barrow outbreak are shown in Table 1. The first case was a 28-year-old Eskimo female who was admitted to the Barrow Hospital in a semi-comatose and disoriented state on October 25, 1964. She experienced an onset of nausea and vomiting 24 hours prior to admission followed by the development of blood-streaked diarrhea, chills and fever. Physical examination revealed signs of circulatory failure and a purpuric rash on the head and neck. The admission white blood count was 3100 with 54 percent PMN's. The spinal fluid was clear with 13 PMN's per cm. This patient was treated with intravenous antibiotics and pressor agents, and because of her deteriorating condition she was sent to the Anchorage Native Medical Center. She expired en route approximately seven hours after admission.

One week later a 46-year-old Eskimo male was admitted to the Barrow Hospital. He had developed gastrointestinal symptoms including nausea, vomiting, and diarrhea approximately 30 hours prior to admission. Physical examination revealed signs of circulatory failure and a small area of purpuric rash on the head. The white blood count was 2800 with no differential performed. Because of the symptomatology, the sudden death of the patient one week earlier, and the history of both patients having eaten fermented meat, a tentative diagnosis of botulism was made. The patient was treated with botulism antitoxin, intravenous antibiotics, and pressor agents, and was immediately air evacuated to Fairbanks. He expired fifteen minutes after arrival in Fairbanks. Autopsy findings on the first two patients did not reveal the cause of death.

One week later on November 7, a 25-year-old Eskimo female was admitted to the Barrow Hospital in a semi-comatose condition. She had noted the onset of her illness 24 hours earlier with weakness, dizziness, headache, and low back pain, followed by the development of chills and fever, shortness of breath, anorexia, and pains in her extremities. Physical examination revealed signs of circulatory failure and diffuse abdominal tenderness. The admission white blood count was 26,-

Table 1. Clinical and Laboratory Findings on Six Cases of Meningococcal Infections in Barrow

Case	Date of Onset	Age	Sex	Signs and Symptoms	Laboratory Findings		Treatment
					Blood	CSF	
D.S.	10/25/64	28	F	Nausea, Vomiting Blood-Streaked Diarrhea Chills and Fever Purpuric Rash Circulatory Failure	WBC 3,100 54 % PMN	Clear 13 PMN	Penicillin (IV) Chloromycetin Streptomycin Gantrisin Pressor Agents
M.K.	11/1/64	46	M	Chills and Fever Nausea, Vomiting Blood-Streaked Diarrhea Abdominal and Leg Cramps Purpuric Rash Circulatory Failure	WBC 2,800	Not Tested	Penicillin Chloromycetin Botulism E Antitoxin Pressor Agents
A.W.	11/7/64	25	F	Headache Chills and Fever Anorexia Back, Sternal and Leg Pains Circulatory Failure	WBC 26,000 86 % PMN	Clear 4 PMN	Penicillin Chloromycetin Gantrisin Botulism E Antitoxin Steroids Sedatives
W.T.	11/8/64	3	M	Nausea, Vomiting Headache Fever	WBC 45,000 89 % PMN	Clear 4 PMN	Penicillin
D.H.	11/14/64	3	M	Headache Muscle Cramps Fever	WBC 15,000	Not Tested	Penicillin
J.C.	11/15/64	37	M	Headache Stiff Neck Chills and Fever Mental Confusion	WBC 8,300 53 % PMN	Clear 4 PMN	Penicillin



200 with 86 percent PMN's. The spinal fluid pressure and cell count were normal. She responded to treatment with intravenous antibiotics and IV steroids within thirty-six hours after admission. (As the cause of her illness was still unknown, she also received botulism antitoxin.)

Between November 7 and 15 three additional cases developed, two in Eskimo children and one in a Caucasian adult. The first Eskimo child had a 24-hour history of fever, nausea, and vomiting. The physical examination was unremarkable, but a white blood count revealed 45,000 white blood cells with 89 percent PMN's. This child was treated with large doses of penicillin and recovered within 24 hours. The second child had a 24-hour history of fever, vague headache, and pain in the extremities. The physical examination was unremarkable. This child was treated on an outpatient basis with large doses of penicillin and he recovered rapidly.

The final case was a 37-year-old Caucasian male, who was admitted to the Barrow Hospital on November 15 in a mentally confused state. Earlier that day he had complained of general malaise and a persistent headache. This was followed by chills, fever, and pain in the neck and anterior chest wall. Meningismus was present on physical examination, but the laboratory findings showed normal white blood cell count and spinal fluid. The patient was treated with intravenous penicillin. His sensorium cleared several hours after admission and he recovered rapidly.

#### **Epidemiologic Findings.**

Epidemiologic investigation began after the occurrence of the third case on November 7. Initial review indicated that the first three patients had eaten food obtained from communal supplies shared with many other persons in the village, none of whom had developed any symptoms. This finding reduced the likelihood of botulism being the causative agent. A survey of over 100 families and school children revealed no unusual occurrence of disease with respiratory or gastro-intestinal symptoms. At this time a gram negative diplococci was isolated from the blood culture of the first patient by Bob Huntley at the Arctic Health Research Center (AHRC) Bacteriology Laboratory. This organism was later identified as Group B *Neisseria meningitidis*.

In order to determine the meningococcus carrier rate among the villagers, throat culture surveys were performed on a group of approximately 250 individuals on November 17 and 21, December 10, and January 19. During each of the

first three surveys approximately 20 percent of the population tested were carriers, while during the fourth survey 13 percent were carriers. A cumulative 48 percent of the tested population were carriers of Group B meningococcus during one or more of the surveys. Analysis of the carrier rates by various social groups revealed that school children and members of the National Guard accumulated the highest percent of carriers, while family groups had the lowest rates.

Because of the theoretical possibility of sulfonamide resistant strains of meningococcus (4, 5) it was decided to delay the administration of mass sulfonamide prophylaxis until the isolated organisms had been tested. Approximately 20 percent of the meningococcus isolated from the cases and from the throat cultures were found to be resistant to 1.0 mg. percent sulfadiazine when tested in the AHRC Laboratory. Because of this finding (which could not be verified in other laboratories because of difficulty in shipping uncontaminated cultures) sulfonamide prophylaxis was not given. Consultation with other persons working in this field indicated that large doses of oral penicillin over a period of ten days might be an effective prophylaxis, although it had disappointing results in military groups. Therefore, this was deemed impractical in the village situation, because unless there was 100 percent participation over a long period of time, the organism could quickly reseed the population. The procedure adopted, therefore, was simply to alert the population and urge them to seek prompt medical care, and to prepare for treatment of any affected individual with large doses of intravenous penicillin (24 million units a day).

#### **Origin of the Outbreak**

The original sources of infection leading to the cases at Barrow could not be specifically attributed to a definite time or a specific individual. Of interest, however, were the Eskimo recruits of the Alaska National Guard, who returned to their native village after sixteen weeks of training at Ford Ord, California. As three such Guardsmen returned to Barrow prior to the development of the first case, this movement provided a logical link with an area where Group B meningococcal infections have been endemic for over two years (4). Throat cultures were taken from ten guardsmen who returned from Ford Ord in mid-November. Group B meningococcus organisms were isolated from three of these ten men. The hypothesis of transmission of meningococci from Ford Ord was considered plausible enough that a policy of

administering antibiotics to returning guardsmen was established.

Statewide Reports.

The outbreak at Barrow stimulated a review of the reported meningococcal infections for all of Alaska. The information provided by the Division of Health of the Alaska Department of

Health revealed that the 1964 accumulated incidence of meningococcal infections was not alarming compared with 1963 (Table 2). However, the incidences in 1964 and 1963 were higher than the preceding years. This is in accord with an increased incidence seen all over the United States (5).

The signs and symptoms of the six cases at Barrow were unusual and confusing to the extent that an admission diagnosis of meningococcal disease could be made in only one instance. Meningitis was not detected by an increase in white blood cells in the spinal fluid in any of the four cases tested, and meningismus was present in only one case. Severe gastrointestinal symptoms, including nausea, vomiting, and bloody diarrhea were the predominant features. The white blood count was not helpful diagnostically, since in two cases it was low, in two cases it was high, and in one case it was normal. The two cases in children were so mild that they might have been missed had not routine blood culturing for meningococcus been done. Even the autopsies of the two fatal cases were not remarkable and did not aid in establishing the diagnosis.

The finding of a cumulative 48 percent carrier rate was not unusual for an epidemic period (6); however, the high incidence rate of 3.5 per 1000 population and the high proportion of adult cases (four out of six) were unusual. These differences may be explained by the extreme overcrowding in the village, or possibly the lack of previous exposure of the villagers to Group B meningococcus.

The theoretical presence of sulfonamide resistant strains deterred the administration of mass sulfonamide prophylaxis to the village for fear of favoring the predominance of resistant strains. The search for other effective chemoprophylactic agents indicated that experience was too limited to provide a basis for definite recommendation (1).

As for treatment of cases, Lepper et al (7) have shown that high doses of penicillin are at least as effective as sulfonamide. Since the presence of sulfonamide resistant strains in the general population has been documented, it seems prudent to treat all clinical cases with another active drug (1). Penicillin G remains the drug of choice.

SUMMARY

During the fall of 1964 an outbreak due to Group B meningococcus occurred in Barrow, Alaska. The signs and symptoms of the six cases were unusual to the extent that an admission diagnosis of meningococcal disease could be made in only one instance. The high incidence rate of 3.5 per 1000 population and the high proportion of adult cases were also unusual.

A cumulative 48 percent of the group surveyed by throat culture were found to harbor meningococcus. Approximately 20 percent of the isolated organisms were found to be resistant to 1.0 mg. percent sulfadiazine in our laboratory, but this was not verified in other laboratories because of contamination.

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Table 2			
Meningoccal Infections In Alaska			
Reported to the State Health Department			
	Native	Caucasian	Total
1950	0	0	0
1952	0	0	0
1953	1	3	4
1954	0	0	0
1955	8	5	13
1956	0	4	4
1957	1	0	1
1958	2	4	6
1959	2	3	5
1960	1	0	1
1961	0	0	0
1962	3	4	7
1963	11	7	18
1964*	10	4	14

\*Includes Barrow Cases.

DISCUSSION

The finding of a cumulative 48 percent carrier rate was not unusual for an epidemic period (6); however, the high incidence rate of 3.5 per 1000 population and the high proportion of adult cases (four out of six) were unusual. These differences may be explained by the extreme overcrowding in the village, or possibly the lack of previous exposure of the villagers to Group B meningococcus.

The theoretical presence of sulfonamide resistant strains deterred the administration of mass sulfonamide prophylaxis to the village for fear of favoring the predominance of resistant strains. The search for other effective chemoprophylactic agents indicated that experience was too limited to provide a basis for definite recommendation (1).



# THE EARLY TREATMENT OF CHEST INJURIES

ARNDT VON HIPPEL, M.D.

ANCHORAGE, ALASKA

Most Alaskan physicians will have occasion to care for a patient with a moderate or severe chest injury. This may be associated with or even overshadowed by other injuries. As with all significant injuries, each chest injury must be evaluated in an orderly fashion. Of course, emergency treatment may have to be started before completion of the evaluation.

The usual "initial evaluation" of an acute chest injury patient takes considerably less time than my discussion. Observation during several respirations will yield the "most probable diagnosis" in the average chest injury case. Palpation, auscultation and percussion can then be used to confirm and extend observations as the following questions are answered.

What is the position and shape of the chest? Is it symmetrical, or, for example, is one side of the chest held in the fixed, over-inflated position so often seen with significant pneumothorax? This is usually best determined by looking at the chest from the head or foot end of the table rather than directly from in front.

Does the chest move symmetrically, or, for example, does one side rise normally with inspiration as the other falls in? Such paradoxical movement is often seen with multiple rib fractures.

Do the chest and abdomen rise together, or does the chest move down as the abdomen rises, suggesting either upper airway obstruction or a bilateral flail chest with multiple rib or sternal fractures?

What is the patient's color?

(a) Is he blue or cyanotic, suggesting severe acidosis?

(b) Is he purple, suggesting traumatic asphyxia? Here, the multiple petechiae and ecchymoses result from a sudden increase in venous pressure (a dramatic picture, but not one which in itself requires therapy).

(c) Is he pale, suggesting significant external or internal blood loss? We have come to rely on the color and vascularity of the inner surface of the lower eyelid more than on the skin surface as an indication of the status of blood loss and blood replacement. This seems to be one body surface that does not blush and blanch along with the rest of the patient, in response to emotion, cold, and other normally encountered circumstances. The conjunctival color should correlate with the status of the patient's veins. Flat, invisible veins go along with significant blood loss. Full veins do not.

When the pulse rises and the blood pressure falls, when urine output — if known—diminishes or ceases, and the patient appears to be going into shock after severe injury but his veins are full, one must rule out cardiac tamponade. With full veins and shock, obviously there is blood in the venous reservoir, but the pump is not working well. So, either the heart is weak or injured, or it is partially obstructed in some fashion. This may be an outflow obstruction—as by a pulmonary embolus — or the heart may be compressed and venous return obstructed, as by fluid under pressure in the pericardial sac or increased pressure in the mediastinum.

Pericardial tamponade can often be handled in the acutely injured patient by one or several pericardial aspirations as follows. Using a No. 18 (or larger) needle of the length commonly used for spinal tap, a subxyphoid insertion is made in a flat manner which will keep the point of the

needle relatively close under the sternum. As the needle is advanced, repeated injections of local anesthetic are made to keep the needle open and the procedure painless. Aspiration is attempted after each tissue plane is crossed until fluid is obtained or one feels the heart bump the needle tip. If one is in the pericardial space and the patient has tamponade, almost immediate improvement in the patient's clinical condition will be noted as fluid is withdrawn. With relief of tamponade and aspiration of all available fluid, the variation of systolic blood pressure with respiration, which may be up to 70 mm. or more in the acutely compressed heart, will rapidly return towards normal. We would not accept as normal any respiratory variation in the systolic blood pressure greater than 15 mm. of mercury, and find that this is a good clinical test in following the patient for possible reaccumulation of pericardial fluid.

Obviously, a needle insertion at an angle more perpendicular to the sternum might result in injury to the posterior part of the heart—either the atria or the coronary sinus—which tend to bleed more than the ventricles if just touched with a needle. Also, the needle should not have a long and very sharp bevel; but accidents are unlikely by this approach if care is used. Reaccumulation of fluid is an indication that early surgery may be necessary.

As the inspection of the patient continues, one looks for obvious external signs of injury, such as hematoma, laceration, open chest wounds, etc.

Does the patient have a pale swelling of the tissues with crackling on palpation characteristic of subcutaneous dissection of air? If so, is the area around the neck the first to swell, as with mediastinal emphysema, or is the crepitus greatest in the development of severe subcutaneous emphysema, when the whole patient looks like a balloon, it may be difficult to determine the source of the airleak. Other things that are of importance are to note whether the patient is in severe pain, whether he is agitated or disoriented, comatose, and of course whether severe, associated injuries exist which may take precedence or might modify treatment.

It is important to determine early whether the patient can cough effectively or whether he is obviously unable to raise his secretions unassisted. Also, if there are yellow stains on the fingers and other signs of smoking, this is an indication

that the patient is more seriously at risk with a moderate or severe chest injury than a comparable non smoker would be. After these initial observations, if facilities are readily available, and the patient's condition will permit, a chest x-ray is always helpful and occasionally will show unexpected pathology or severity of injury.

In order to proceed with sensible and sufficient treatment, one must now decide whether the patient is in trouble now, whether he will get into trouble, or whether he has suffered an injury from which recovery unassisted is likely. There is more to this than merely the amount of tissue damaged. The answer lies also in an evaluation of how the injury has altered the patient's normal cardiorespiratory function: that is, a dynamic evaluation must be made, not just a static one. For example, we were recently able to treat an obese female having 11 posterior rib fractures with just bedrest and mild analgesia; her rib fractures being posterior and mostly single were well splinted by the large muscles of the back and a large hematoma. This was a severe static injury but without major dynamic effect. Yet, another patient, a middle-aged milkman, who smoked heavily, was admitted with five, double anterior fractures on the right, marked flail and dyspnea, and required over one month of respirator care before he could resume breathing unassisted. Obviously, he had much less tissue injury, but had major dynamic alterations.

A significant flail chest, or an open wound of the chest which has a similar physiological effect, is important as a continuous strain on the patient, and requires continuous and persistent treatment if survival is to be achieved. Both types of injury reduce single breath air exchange in the lungs by decreasing the normal negative inspiratory and positive expiratory intrapleural pressures. In addition, the rocking motion of the mediastinum interferes with venous return, and often alters heart rhythm and rate.

As each breath becomes more difficult and its volume diminishes, the useless or dead space air volume, which is constant, becomes a larger percentage of the total breath. So, the injured patient works harder for each breath, moves less air, with a higher percentage of useless air, and he has to breathe more often. He is inefficient. Even at bedrest, he may work so hard just breathing that his oxygen requirement equals that of an athlete exercising vigorously. Obviously, when he is close to the point at which he is using all of the



oxygen he can get just breathing, he is in danger of running out of gas (oxygen), and a small change for the better or worse can have a rapid cumulative effect and be either life saving or quickly fatal. Thus retention of secretions under these circumstances can cause just enough interference with respiration to further increase the work required for breathing so that the patient just cannot keep up.

Therefore, the patient who is unable to cough and raise secretions, even after a moderate chest injury, must be assisted with endotracheal suction and frequent examinations by a physician. Suctioning is often the key to maintaining minimal, adequate respiratory efficiency and survival during the days or weeks until recovery is assured. It is important to start treatment for retained secretions the moment the patient demonstrates an inability to cough, not when he shows signs of trouble, as this is often too late. Again, the heavy smoker has much worse lungs to start with. Normally, he has more secretions and more trouble raising them even without an injury, and this must be kept in mind during evaluation and treatment. Pain also interferes with efficient breathing because it causes shallow breathing and increases the tension of the patient. However, narcotics and sedatives always depress breathing, and the patient who gets agitated or disoriented because of anoxia usually gets more sedation with further depression of ventilation and death.

We can now formulate some general rules for the treatment of chest wall injuries. When a patient is just barely getting along, a small improvement in each breath should have a rapidly cumulative, beneficial effect on his course. Therefore, giving oxygen, or stabilizing the chest wall even partially, as by placing a sandbag on the loose part of the chest, or even laying the patient on a pillow on the injured side or putting a towel clip or wire around the loose ribs and suspending them from a small weight, all will help somewhat and may be all that is required to get by. Obviously, none of these methods is very satisfactory. Try to breathe with a sandbag on your chest for a little while. You rapidly become impressed with how bad things must have been before if this is so much better.

It is important to remember that age and physical condition play a major role in prognosis and in treatment required by patients with chest injuries. However, complete recovery is the rule

if the patient survives. This is true even if the patient has required several weeks of respirator care. At present, we believe that a respirator provides the best support for the severely injured chest patient or for the moderately injured patient in poor condition. A respirator, working either through a cuffed tracheostomy tube or nasotracheal tube, allows 1. internal stabilization of the chest, 2. proper endotracheal toilet by suction when necessary, 3. adequate expansion of the lungs in each breath without work by the patient, 4. delivery of air at desired oxygen levels and well humidified, 5. adequate analgesia and sedation of the patient to permit relaxation and rest and 6. control of the wet or contused lung after severe chest trauma, which often can only be handled by positive pressure controlled breathing. But, the physician who decides to use a respirator and tracheostomy and heavy sedation takes on an immense obligation, as the patient becomes totally unable to cough and raise secretions, or often even to breathe without assistance. When every breath depends upon the hospital staff, a three minute lapse in nursing care can be fatal, if for example the respirator becomes unplugged or disconnected, or the tracheostomy becomes obstructed.

There are certain inherent risks to all positive pressure breathing — whether given for resuscitation, during general anesthesia, or by respirator. When there is a possibility that lung injury coexists or has recently occurred, as with a recent thoracentesis or by the sharp ends of broken ribs, a tension pneumothorax can develop rapidly as the positive intrapulmonary pressure causes leaks to develop or reopen, and may result in rapid death if not promptly recognized and treated.

Normally, of course, a tension pneumothorax is obvious, with dyspnea, pain, a fixed, hyperinflated hemithorax, tracheal deviation, hyperresonance and decreased breath sounds. In the draped patient under anesthesia or the heavily sedated patient on the respirator, it is not so obvious. Pneumothorax can be recognized at surgery by the abdominal surgeon who notes the abnormal bulging of the diaphragm. Normally, the diaphragm domes upward into the chest or flattens out during deep inspiration or in emphysema, but only free air or fluid or mass can bulge the diaphragm downward toward the abdomen. When thus recognized from the abdomen, treatment is easy, namely—a temporary hole in the diaphragm to decompress the chest and then elective insertion of a chest tube.

A chest tube of adequate size should always be used whenever there is a significant air leak into the pleural space which can cause lung collapse and interfere with respiratory efficiency. In principle, a chest tube is just a one way valve. The simplest chest tube would be an intrapleural catheter with a slit condom or balloon over the outside end of the catheter, acting as a one-way flutter valve. A preferable method and that commonly used is to place the free end of the tubing under water. The water level should be sufficiently below the patient so that he cannot draw it up the tube into his chest on deep inspiration. Also, if the tubing is very deep under water, it will require considerable pressure inside the pleural space to blow air out through the tube. The same holds true if a long, hanging loop of tubing becomes filled with fluid, as this fluid will then have to be lifted over into the bottle by positive expiratory pressure by the chest. This means more work for the injured patient. Such little things can be crucial.

Insertion of a chest tube can be easily accomplished, using local anesthesia for the skin, periosteum and pleura and aspirating for free air or fluid before insertion of the largest firm-walled tube consistent with the size of the interspace. The tube should be measured prior to insertion to determine the length placed inside the pleural space. After the transverse incision through the skin, a Kelly or trocher is used to make a hole just over the top of the lower rib of the interspace, thereby avoiding the intercostal vessels, and sufficiently lateral to the sternum to avoid the internal mammary vessels and heart. The tube can then be poked through this hole. A customary site for tube insertion is just over the top of the third rib anteriorly in the mid-clavicular line for the treatment of a complete pneumothorax, or laterally and lower in the mid-axillary line for the evacuation of fluid. Obviously, the diaphragm is endangered by a low, lateral insertion; it is important in inserting a tube to be sure that it passes into the pleural cavity. In heavy individuals care-

ful palpation may reveal that the supposedly intrapleural tube is just curled up in the chest wall or under the breast.

When there is evidence of a major air leak from the trachea and bronchi, as suggested by the early and rapid onset of mediastinal and neck subcutaneous emphysema, a tracheostomy will prevent the positive expiratory phase of forced respiration and decrease the air accumulation markedly. It will also aid in the decompression of any tension which may be present in the mediastinum, as shown by respiratory alterations in systolic blood pressure.

There are a large number of chest injuries that I have not discussed. Generally, in addition to the early therapy I have outlined, early evacuation is often essential to an area providing more complete facilities for followup care and surgery. It should be kept in mind that it is possible to successfully repair ruptures of the trachea and bronchus, delayed ruptures and traumatic aneurysms of the thoracic aorta (often detectable by mediastinal widening on the chest film, upper chest pain, and a systolic murmur over the upper chest), rupture of the diaphragm, and traumatic rupture of the mitral valve. Also late sequelae of injuries, such as clotted hemothorax or emphysema, may require surgical treatment. We hope shortly to expand the present facilities in Anchorage to permit the routine evaluation and treatment of correctable cardiovascular lesions.

The cautious physician will remember that chest injuries are often underestimated because they may be well tolerated initially; he will err on the side of over treatment of retained secretions as well as the instability of the chest which so often takes some hours after injury to develop fully. Early evacuation, if there is a possibility of trouble developing, and early, vigorous treatment, with the prevention of patient exhaustion and complications, will save many lives now lost, and these patients, more than other severely injured patients, usually recover completely if they do survive.



# PRINCIPAL TOXIC, ALLERGIC, AND OTHER ADVERSE EFFECTS OF ANTIMICROBAL AGENTS

*Reprinted from THE MEDICAL LETTER*

All antimicrobial agents are capable of causing allergic or toxic reactions, and probably all can cause superinfections. As with most drugs, adverse effects are related to such factors as dosage, the state of kidney and liver function, and the age of the patient. There are special hazards with the premature infant and the neonate, whose detoxification mechanisms are not fully developed. In the elderly, reduced functional capacity of the kidneys may increase the toxic and other adverse effects of drugs excreted by the kidneys.

**ALLERGIC REACTIONS**—The penicillins and the sulfonamides are the antimicrobial agents most likely to cause allergic reactions. Anaphylactic shock and possibly delayed allergic reactions, such as drug fever, asthma, urticaria and serum sickness, occur more frequently with parenteral than with oral administration. The cholestatic jaundice sometimes caused by triacetyloleandomycin and erythromycin estolate (Ilosone) may be a manifestation of drug sensitivity rather than a toxic reaction.

**GASTROINTESTINAL SIDE EFFECTS**—Gastrointestinal disturbances are quite common following antimicrobial therapy; they are usually dose-related, and may occur with any antimicrobial agent administered orally or, occasionally, parenterally. Nausea, dyspepsia and diarrhea may be due to primary irritation of the gut by the antimicrobial drug or to superinfection by resistant staphylococci, fungi (especially *Candida albicans*) or other organisms. Superinfections in the alimentary tract and in other organs may occur during oral or parenteral treatment with many antibiotics, but they are especially frequent with oral administration of broad-spectrum drugs such as the tetracyclines. Anal itching is a frequent side effect of orally administered antibiotics, and has been attributed to superinfection by fungi; oral or topical administration of a fungistatic agent such as nystatin or amphotericin B is some-

times effective in relieving the symptom. A rare adverse effect of antimicrobial therapy is an intestinal malabsorption syndrome, occurring chiefly with neomycin and kanamycin.

**ANTIMICROBIALS IN RENAL INSUFFICIENCY**—Most antimicrobial agents and their metabolites are excreted mainly in the urine. A few (erythromycin, novobiocin and triacetyloleandomycin) are excreted by way of the biliary tract. The usual doses of most antibiotics can be given with reasonable safety to most patients during the first 24 hours of therapy, but in patients with renal insufficiency, subsequent doses should be reduced to avoid the risks of toxic drug concentrations in blood and tissues. Even the initial doses of antimicrobials with high renal or auditory-nerve toxicity, such as streptomycin, kanamycin, neomycin, polymyxin B and polymyxin E (colistimethate), should be reduced in patients who have impairment of renal function. Maintenance doses of all agents should be reduced if the patient is dehydrated or renal function is impaired. Where laboratory facilities are available, chemical analysis of antibiotic blood levels or bioassay of serum antimicrobial potency is helpful in defining dosage requirements and minimizing toxicity.

**USE IN PREGNANT WOMEN AND IN THE NEWBORN**—The sulfonamides, chloramphenicol, the tetracyclines, streptomycin, novobiocin, erythromycin, and nitrofurantoin have been suspected of causing injury to the fetus or the newborn when administered during pregnancy or lactation. Though the evidence is questionable, all antimicrobial agents should be administered cautiously to pregnant women, nursing mothers, and premature and newborn infants. There is no convincing evidence that administration of any antimicrobial drug to pregnant women has had teratogenic effects. Chloramphenicol and the sulfonamides are metabolized and detoxified with the aid

of liver enzymes which may not be active in newborn infants; if possible, their use in the newborn should be avoided.

**THE TABLE**—The principal adverse effects of the common antimicrobial agents are given in the following table. With many drugs, it has been difficult to estimate the frequency of adverse effects of published reports. The frequencies indicated are based on the judgment of Medical Letter consultants as well as on published reports; doubtless, continuing experience will dictate changes in the estimates of frequency. In general, toxic and other adverse effects are more severe with parenteral than with oral administration. Gastrointestinal disturbances are much more frequent with oral than parenteral administration, and may occur with any antimicrobial agent; they are omitted in the table when they appear to occur only rarely.

#### p-AMINOSALICYLIC ACID

Frequent: GI disturbances, allergic reactions, often with fever  
Occasional: blood dyscrasias  
Rare: severe liver damage

#### AMPHOTERICIN B

Frequent: renal damage, anemia  
Occasional: fever, hypotension, liver damage, blood dyscrasias

#### BACITRACIN

Frequent: renal damage (P)  
Occasional: blood dyscrasias (P)

#### \*CEPHALOTHIN

Frequent: allergic reactions; pain at site of injection  
Rare: neutropenia (possibly allergic)

#### CHLORAMPHENICOL

Occasional: blood dyscrasias, usually severe and sometimes fatal  
Rare: allergic reactions, peripheral neuropathy, optic atrophy  
(Chloramphenicol is detoxified by the liver; use with extreme caution in newborn and patients with liver disease.)

#### COLISTIMETHATE (POLYMYXIN E)

see POLYMYXIN B

#### CYCLOSERNE

Frequent: confusion, drowsiness, coma  
Occasional: peripheral neuropathy  
Rare: seizures, psychosis

#### ERYTHROMYCIN

Occasional: GI disturbances  
(Erythromycin estolate may occasionally cause cholestatic jaundice, possibly allergic.)

#### \*ETHIONAMIDE

Occasional: GI disturbances, live damage, peripheral neuropathy, allergic reactions

#### GRISEOFULVIN

Occasional: GI disturbances  
Rare: allergic and photosensitivity reactions, renal damage, blood dyscrasias, lupus-like syndrome

#### ISONICOTINIC ACID HYDRAZIDE

Occasional: peripheral neuropathy  
Rare: allergic reactions, liver damage, blood dyscrasias, psychosis

#### KANAMYCIN and NEOMYCIN

Frequent: auditory-nerve damage (P)  
Occasional: renal damage, usually reversible (P)  
(Intraperitoneal administration may cause respiratory depression and arrest; topical application occasionally causes contact dermatitis and conjunctivitis.)

#### \*LINCOMYCIN

Frequent: diarrhea on oral administration

#### MENTHENAMINE MANDELATE

Rare: allergic reactions, crystalluria with renal damage

#### \*NALIDIXIC ACID

Occasional: GI disturbances  
Rare: photosensitivity reactions, seizures

#### NEOMYCIN, see KANAMYCIN

#### NITROFURANTOIN

Occasional: allergic reactions, GI disturbances  
Rare: liver damage, blood dyscrasias, peripheral neuropathy (sometimes severe)

#### NOVOBIOCIN

Frequent: liver damage, allergic reactions, GI disturbances  
Occasional: blood dyscrasias

#### NYSTATIN

Occasional: allergic reactions, GI disturbances

#### PAROMOMYCIN (not available for parenteral use in the United States)

Occasional: auditory-nerve damage (P)  
Rare: liver damage (P), allergic reactions



## PENICILLINS

Frequent: allergic reactions

Rare: leukopenia with methicillin

(The potassium in large doses of potassium penicillins can be neurotoxic; intrathecal penicillin may injure neural tissue.)

## POLYMYXINS B and E

Frequent: renal damage, peripheral neuropathy (P)

Rare: allergic reactions

## PYRAZINAMIDE

Occasional: severe liver damage

## RISTOCETIN (no longer sold in U.S.)

Frequent: renal damage, blood dyscrasias

Rare: auditory-nerve damage, allergic reactions

## STREPTOMYCIN

Frequent: vestibular nerve damage, sometimes permanent (dihydrostreptomycin causes severe, irreversible auditory-nerve damage)

Occasional: contact sensitivity and other allergic reactions

Rare: peripheral neuropathy, blood dyscrasias, respiratory arrest

## SULFONAMIDES

Frequent: allergic reactions

Occasional: renal injury, liver damage, blood dyscrasias, photosensitivity reactions

(Serious reactions such as Stevens-Johnson syndrome and blood dyscrasias are most likely to occur with long-acting sulfonamides, especially sulfamethoxypyridazine.)

## TETRACYCLINES

Frequent: GI disturbances, photosensitivity reactions (with demethylchlortetracycline; rare with other tetracyclines)

Rare: allergic reactions, blood dyscrasias, visual disturbances, renal disease, interference with protein metabolism, increased intracranial pressure in infants

(May cause bone lesions and straining and deformity of teeth in children, and in the newborn when given to pregnant women. Deteriorated tetracycline in certain formulations has caused impairment of renal tubular function. Parenteral doses in excess of 1 Gm daily may cause fatal liver damage, especially in pregnant women and patients with renal disease.)

## TRIACETYLOLEANDOMYCIN

Occasional: GI disturbances, allergic reactions, cholestatic jaundice (possibly allergic)

## VANCOMYCIN

Frequent: auditory-nerve damage, thrombosis at injection site

Occasional: renal damage, usually reversible

Rare: allergic reactions, peripheral neuropathy

## VIOMYCIN

Frequent: auditory-nerve damage

Rare: renal damage

(P) Adverse effects which occur only with parenteral administration, but not with oral or topical use of the drug.

\* New agent; experience is insufficient for adequate evaluation of the frequency, severity or range of side effects.

## A PARTIAL LIST OF BRAND NAMES

Amphotericin B: Fungizone—Squibb

Cephalothin: Keflin—Lilly

Chloramphenicol: Chloromycetin—Parke, Davis

Colistimethate: Coly-Mycin—Warner, Chilcott

Cycloserine: Seromycin—Lilly

Demethylchlortetracycline: Declomycin — Lederle

Erythromycin: Erythrocin — Abbott; Ilosone — Lilly

Griseofulvin: Grisactin—Ayerst; Grifulvin—McNeil; Fulvicin—Schering

Kanamycin: Kantrex—Bristol

Lincomycin: Lincocin—Upjohn

Methenamine mandelate: Mandelamine—Warner, Chilcott

Nalidixic acid: NegGram—Winthrop

Nitrofurantoin: Furadantin—Eaton

Novobiocin: Cathomycin — Merck; Albamycin—Upjohn

Nystatin: Mycostatin—Squibb

Paromomycin: Humatin—Parke, Davis

Polymyxin B: Aerosporin—Burroughs Wellcome

Sulfamethoxypyridazine: Kynex—Lederle; Midicel—Parke, Davis

Triacetyloleandomycin: TAO — Roerig; Cyclamycin—Wyeth

Vancomycin: Vanocin—Lilly

# EDITORIAL

## HEALTH EDUCATION— A CHALLENGE FOR ALASKA

In attempting to analyze needs for education to combat health problems that are specifically prominent in Alaska, two basic considerations must be borne in mind:

1. That Alaska is still a frontier country, largely undeveloped with climatic conditions that are harsh and demanding both physically and psychologically. Institutions which people take for granted in other states are yet to be established in Alaska and a lack of stability is bound to result.
2. That large segments of Alaska's people are in a state of flux in regard to basic standards upon which to base their lives. The Native peoples are caught between two cultures and perplexed as to how one can pass from the stone age to the 20th century in a single generation. Many white persons have fled to Alaska as an escape from besetting problems of a more organized society while others have sought out Alaska as ready raw material to be worked upon by their own creative energy. Conflicts between the escapists and the creators are bound to result as are the conflicts within the single individual between the escapist and the creative elements of his own character. Many Alaskans are essentially transients, lacking deep roots within the community and within themselves.

Bearing these basic considerations in mind, these are some specific recommendations:

1. Health education that will help the individual in adapting to the unique environment of Alaska.
  - a. Physically, by instruction in proper clothing and the techniques and psychology of cold weather and wilderness survival.
  - b. Psychologically by encouraging physical fitness and outdoor pursuits that can aid the individual to live compatibly with the Alaskan climate rather than in conflict with it.
  - c. Basic instruction in wilderness and pioneer community sanitation with the realization that safe water and sewage cannot be taken for granted in underdeveloped country.
2. Health education that will help in imparting necessary basic modern health information especially to groups in which this knowledge is not part of their cultural tradition.
  - a. Basic sex education.
  - b. Elements of the germ theory of disease in the hope that numerous diseases which have heretofore been accepted as normal may be properly recognized and treated.
3. Group discussion and interaction that will tend to aid individuals in developing for themselves standards by which they may guide their own lives even in the midst of moral and cultural turmoil.
  - a. Attitudes toward alcoholism, smoking, marriage, etc.
4. Ample information about and training opportunities for young people in the health professions. Alaska is understaffed in these fields and will continue to be so until it begins inspiring and training its own health professionals.

Elizabeth A. Tower, M.D.



## BOOK REVIEW

**TITLE: "Surgery of the Biliary Passages of the Pancreas."**

**Walter Hess, M.D.**

**Van Nostrand Company, Inc.**

This monograph represents a comprehensive and up to date review of surgery of the biliary passages, duodenum, and pancreas. It is written primarily from the point of view of the clinical surgeon, although it also includes discussions of anatomy, pathology, diagnosis and complete clinical management of diseases of these organs. The section of the book which to me appears unique is the detailed description of the use of manometry with operative cholangiography. The combined use of these two techniques supplies information which is not available by either method alone. The use of the manometer to measure pressures while injecting contrast material allows the surgeon to plan the exposure of his operative cholangiograms at optimum time in the various stages of the passage of contrast material through the biliary system. In addition it provides information helpful in diagnosing irritable and spastic conditions involving the biliary sphincters. This technique undoubtedly represents a refinement of operative cholangiography as it is ordinarily done and the films illustrating the technique are clear and well chosen.

The sections dealing with the technical aspect of biliary tract surgery are complete and concise. Many suggestions are made to prevent technical complication and an additional section is devoted to the detailed management of technical problems after they have arisen. A well written section is devoted to the post-operative management of these patients.

The work is based on a large clinical experience of over fifteen hundred biliary tract operations and contains appropriate data on morbidity, mortality and complications following various procedures. A fairly up to date and complete list of references is available including considerable material from the European literature, which is not ordinarily available in articles by American surgeons. A slight drawback in the text consists of a rather literal translation from the German original with slight differences in terminology from that commonly employed in America.

In summary this is an up to date, concise and authoritative monograph on biliary surgery. The section on combined use of manometry with operative cholangiography is felt to be particularly worthy of close study.

**THEODORE SHOHL**

**Theodore Shohl, M.D.**

## ANNOUNCEMENT

### CLINICAL CENTER STUDY OF HODKIN'S DISEASE AND LYMPHOSARCOMA

The cooperation of physicians is requested in a study of Hodgkin's disease and lymphosarcoma being conducted by the National Cancer Institute at the Clinical Center, National Institutes of Health, Bethesda, Maryland.

Particularly desired are patients who have had no previous treatment or minimal prior treatment. All clinical stages of biopsy-proven disease are acceptable. The major purpose of the study is to determine the curative potential of intensive radiotherapy in localized cases and to evaluate combination chemotherapy and X-irradiation in patients with generalized involvement.

Physicians interested in having their patients considered for the study may phone or write to:

Paul P. Carbone, M.D.  
The Clinical Center  
National Institutes of Health  
Telephone: 656-4000, Ext. 64251  
(Area Code 301)

## PRESIDENT'S PAGE

ROYCE MORGAN, M.D.

President Alaska State Medical Association



*Dr. Morgan*

Many of you are eager to know how we are progressing towards our 1966 Alaska State Medical Association convention. Our 1966 convention will be held in Anchorage on May 4, 5, 6, and 7. Dr. Peter Koeniger has agreed to serve as convention chairman, and Dr. David Ekvall has agreed to serve as program chairman. It has already lifted a big burden from your president to have such fine and capable men taking these jobs. I realize they are both O.B. men, but we have a real big job to do and they "know how to deliver."

The crackling sound of fire, the flash of yellow flame, the chalk of smoke, and a heated sweat awakened me at 3:30 a.m. on September 14th, 1965, at my A-frame cabin at Big Lake. The lower floor was engulfed in flames. Everything was right for

it to burn like a dry piece of paper. In just a few minutes the whole thing was nothing but a bed of glowing embers and smoldering ashes. Fortunately, there was a way to escape. Just two months before the fire we had a fire-escape door cut from the second floor balcony, opening out on the roof of the back porch. It was another earthquake-like experience for me, from which I emerged thanking God for my life and that of my five-year-old son, Philip, and realizing how relatively unimportant fleeting material things are.

This fire report is important to ASMA members, since had I not gotten out you would now have a new president. Also, I had taken a lot of paper work (three brief cases full) and my dictaphone with me to the cabin hoping that the quietness of Big Lake would afford an opportunity to answer several letters and do a lot of Alaska State Medical Association business. Since I have no record of what was destroyed, some letters may never be answered. Those of you who are awaiting a reply or who may have forwarded some important mail to me, please write again and help me "catch up" and get re-oriented.

One of the pleasant duties and privileges I have had as your president was to attend and speak briefly at the ground-breaking ceremony on September 24th of the Soldotna General Hospital. I was inspired to be with such a dedicated group of people, many of whom have pledged themselves to give \$1,000 so that their dream for a hospital may become a reality and a very urgent need will be met. This was an interesting meeting with brief speeches from Dr. Isaak, Mr. Goodrich, and Governor Egan, and a very entertaining after-dinner speech by Genie Chance. It is heartwarming to see this hospital in the process of being born and to have this association with such dedicated people.

Most important to us of the ASMA is the House of Delegates Special Session which was held October 1st and 2nd and proceeded by the



National Orientation Conference on Public Law 89-97. President-elect Bob Schuler, Delegate Joe Ribar, and I attended. At the Special Session, which incidentally was only the sixth such specially called session in the AMA history, it was agreed that each doctor must decide individually whether to participate in the Federal "Medicare" program when it goes into effect next July 1st. Past policies were reaffirmed that "a doctor shouldn't dispose of his services under conditions he feels impair his ability to render the best medical care he can." This, in effect, leaves the decision up to the individual physician.

Of the more than forty resolutions, the largest number pertained to the question of participation or non-participation in the Medicare program, but others related to how physicians should accept payment under the law and the possibility of repeal of the law. Dr. Milford O. Rouse, AMA House Speaker, said, "We will tolerate Medicare, but we shall let it be known that we're standing right now to get the bad parts repealed." He stressed the point that we should work now to elect Congressmen who would in turn work to change the law. . .

Dr. James E. Appel, AMA President, set the prevailing tone for the sessions by maintaining his earlier opposition to an AMA policy of non-participation. "I am sure this House will not wish to dictate to any individual physician what action he should take," he said. "Each physician must finally decide himself the course he will pursue—an action which the law clearly permits."

Dr. Appel said that even if it were legal to endorse non-participation, such action would be unwise for "strategic reasons." "Our next great legislative battle could well concern itself with Government participation in the financing of the health care of one hundred and eighty million people under the age of 65," he said. "I submit that our voice will be listened to with greater respect if we act with the utmost restraint and prudence during the interim period." Dr. Appel's remarks received a standing ovation from a majority of the delegates.

On the matter of payment under Medicare, several resolutions would have placed us on record in favor of physicians billing Medicare patients directly rather than submitting bills to a fiscal intermediary. Those in favor of direct billing contended it would permit doctors more freedom from Government restrictions and regula-

tions under Medicare, and that the traditional doctor-patient relationship would be maintained. Sounds reasonable!

A. Leslie Hodson of Chicago, our legal counsel Re PL 89-97, said that any "invitation" from the House for a total boycott would be a violation of the anti-trust laws. He added, however, that any physician, acting on his own, can refrain from participation if he wishes. The AMA Judicial Council acknowledged that an individual physician is free to select his patients and to decline to participate in Medicare if he wishes. The Judicial Council said, "Under some circumstances the physician's freedom to select his patients may be circumscribed by ethical considerations," for example, it stated: A doctor should respond to a request for help in an emergency, and he should not refuse to help any person if, as a result, that person would be unable to get necessary medical care."

The meeting was permeated by a feeling of gravity and the serious nature of this Medicare program, which will affect the future of the practice of medicine for generations to come.

This meeting was much more exciting and emotion-filled than I will ever be able to convey to you in this report. A strong advocate for complete AMA non-participation, asked, "Will we be placed in jail? Will they take our money away? And if these things happen, wouldn't it be with it all?"

Dr. John Hawk of South Carolina, paraphrased Patrick Henry and said, "I know not what course others may take, but as for me, give me strength to stand firm, and to 'non-participate' in the best manner I can, or let me get out of the medical profession."

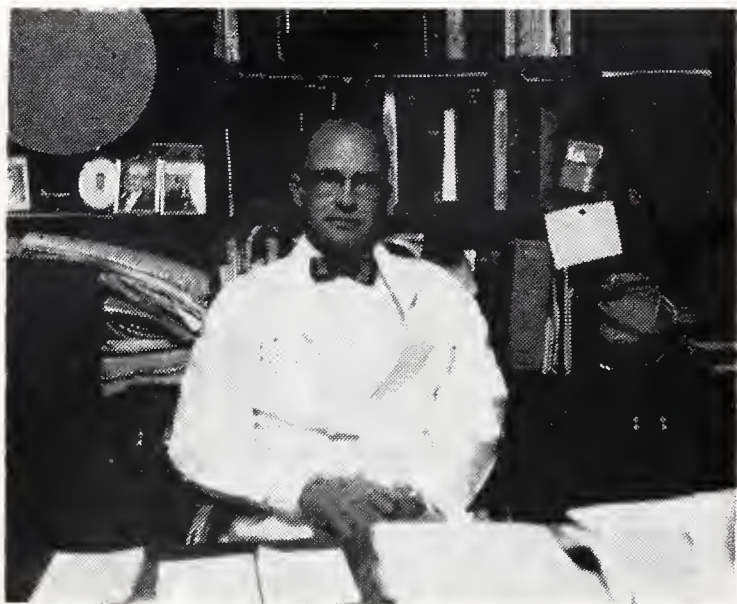
It was an inspiring and informative meeting. I just wish every doctor of our state could have been there with me! We must come alive here in Alaska and work with AMPAC (American Medical Political Action Committee) and our local party to see that we get legislators, both state and national, who will make laws which we need and change this present one.

After a nice steak dinner in Old Town, Chicago, Joe Ribar, Sherwood Williams, our regional man from AMA and I were walking down the sidewalk. I stepped in a crack and almost fell down. Some nice Chicago lady watching nearby said "Cha-cha-cha."

# AN ALASKAN DOCTOR'S JOURNAL

## CLINIC AT SITKA, ALASKA—JULY, 1965

MILO H. FRITZ, M.D.,  
ANCHORAGE, ALASKA



*Dr. Fritz*

### SITKA CLINIC 12-25 July 1965

Ever since Harrison Leer left his practice of ophthalmology in Juneau two or three years ago for the city of Medford, Oregon, I have been holding clinics every six months in the most beautiful of all Alaska's cities and far and above my favorite, Sitka. It is on an island covered with a brooding evergreen forest of mighty spruce surrounded by a necklace of small islands upon which the gray ocean breaks with surf of silver and foam of diamonds.

Many specialists have visited Sitka from time to time ever since I made my initial trip there as a civilian in 1948 and 49. But the criticism has been that none of the visiting messiahs ever stayed long enough to do even the simplest surgery or, if they did, they crowded it all into a long 12 to 16 hour day leaving the physicians to face the complications including hemorrhage.

Accordingly, when running for nomination as as Republican governor of Alaska in 1961, I stopped in Sitka and the physicians there, Dr. Phillip Moore, Dr. Edward Spencer, Dr. T. M. Moore and Dr. Robert Shuler asked if it would not

be possible for me once again to begin coming regularly to Sitka. They asked me to operate upon those cases that I felt could be handled there safely. I was to stay long enough afterwards to hold a diagnostic EENT clinic and observe the patients post-operatively until they were safely on the road to convalescence with little or no danger of post-operative hemorrhages or other complications.

This I was glad to do and by working with the hospital administrator Mrs. Dorothy Thomson, known to one and all as Brownie, we have since then picked times when one or more of the physicians was away on leave, or early in the calendar year when the hospital load was apt to be at its lightest.

This time, it being summer and July and since Dr. Phil and his wife, Mildred, were away in the States, it was our good fortune, as it was last year, to be allowed the use of his clinic. They permitted us to live in their home thereby making it a most welcome change from life out of a suitcase.

We had run the usual announcement in the papers of Juneau, Wrangell, Petersburg, Ketchikan and Sitka regarding the clinic, the address where it would be held this time, the telephone number, our local post office box in Sitka as well as our Anchorage address and telephone number so that people would request appointments.

My wife, Betsy, telephoned Brownie from time to time to schedule previously requested surgery or surgery about which we had been written, either by the referring physicians or by the patients themselves so Brownie had a pretty good idea of what we had to do.

We flew to Juneau this time in a jet of all things, via PNA, in great contrast to the old DC-3's and tri-motored Stinsons in which I had negotiated the trip in previous years over the last quarter of a century. From Juneau we proceeded to Sitka by Ferry, this time in sunshine that would have made Hawaii proud. We stayed on



deck until the dinner gong and the sun setting behind the mountains of Admiralty Island sent us below.

For those who have never made the trip by Ferry, I say, don't miss it. There is wildlife and natural beauty of growing things in such profusion and in such variety as one can never appreciate from the vantage point of a seat in a 707 Jet.

We arrived in Sitka at 1:30 on Sunday morning, the 11th of July, and were providentially taken by Dr. Edward Spencer who was out there to meet Dr. Ted Phillips who was expected on the same Ferry but who did not make it till later in the week. We immediately went to the hospital where I picked up the house key for Phil Moore's place and in 20 seconds had traversed the distance between the hospital and his combination home and clinic. Betsy and I were soon happily settled down and ready for a quiet night's sleep. First however, I had to be sure that my patient for later on that morning was in the hospital at Sunday noon as requested which, indeed he was.

We ate either in the Sitka Cafe or the Pioneer Grill, both run by our good friends, Norman and Ethel Staton. Ethel's mother had been a patient of mine in Ketchikan 25 years (!) ago when I was practicing in that lovely city.

They provided us with sack lunches which made it unnecessary for us to leave Phil Moore's place at noon. We could look out on his little Japanese garden to the rear or out at the busy roadstead to the west, keeping careful tabs on the ships that came and went ceaselessly. Log booms were dragged past by the Baggen Barge Company. The ceaseless aerial activities of the Coastal Ellis Airlines with its lumbering PBY's and their Goose type airplanes are a sidewalk superintendent's delight. They wobble up the cement apron to a circular concrete turn-around to either park or be filled up with gas and take on new passengers before making the trip back to Juneau or to the other cities of Southeastern Alaska. A new 5,000 foot, paved runway will soon terminate another romantic phase of Alaska's picturesque life.

Betsy and I were joined Wednesday, the 21st by John Spahn, the Guild Optician from Anchorage who has been my companion and friend on these itinerant clinics throughout Alaska ever since 1955.

One hundred one pairs of spectacles were supplied. Several people were seen from the Pio-

neer's Home for the various afflictions of the aged in the fields of ophthalmology and otolaryngology. As EENT consultant for the Alaska Native Health Service three patients were seen from Mt. Edgecumbe which is just about 300 yards across a deep channel from Sitka.

After John arrived on the few days when the sun shone or between showers, we rolled out Phil Moore's table tennis onto the concrete apron in front of his double garage and played three or four games of table tennis. For the three years I have been playing with John Spahn I have not won a single game. The closest I ever came to winning a game was one in which he beat me 21 to 18 in the summer of 1964. And, with senility creeping up on me at a full gallop it is unlikely that I will ever win a game.

Every night except Saturday and Sunday Betsy and I did the paper work in connection with the clinic. Most of our patients here work either for the Mill—the Alaska Lumber and Pulp Mill owned by a Japanese Company—or are employees of various federal, state or borough agencies, all covered by insurance and necessitating considerable administrative and paper work in order to get paid.

When this was done we would sit up in the living room overlooking the busy roadstead listening, on Phil's wonderful HiFi with a really extraordinary set of speakers, to as many varieties of music as there is musical taste among three people.

On Saturday, the 17th, John Spahn and I went in an Alaskan Coastal Ellis Goose to Sitko Lake and fished for trout. It was a mixed sun, rain and fog sort of a day with considerable wind but we did manage to catch seven or eight small trout, the total cost of which John ruefully observed was in the neighborhood of \$62.00. While there we built a fire on the beach, erected a windbreak of alder branches and dozed, ate and slept away three or four hours before it was necessary to do more fishing and return to Sitka.

We went out in a Goose which had been chartered by a lovely gray haired lady with braids and her spectacular daughter who did not like the idea of waiting for the Ferry with only overnight in Juneau and therefore chartered the Goose to take them to Juneau which would allow them a day and a half in our capital city. We were able to go along with them and since the girl had never flown in anything but a jet before she was greatly

excited riding up front in the Goose as co-pilot for Bob File, a friend of ours of several years standing and upon one of whose children we had to operate on the forthcoming week.

While we were enjoying our stay in Sitka Lake during a lifeboat drill on one of the Japanese steamers that was tied up at the dock of the Alaska Lumber and Pulp Mill, something gave way and a lifeboat with six crewmen aboard fell 30 feet into the water. Two of the crewmen suffered minor injuries, two relatively severe injuries and two critical injuries. Two of these went to the Mt. Edgecumbe Alaska Native Health Service Hospital, across the channel, and four of them went into the Sitka Community Hospital already bursting with the patients that I had admitted for the next day's work or who were recovering from surgery already done. One of these seamen had a fractured back with partial paralysis of his lower extremities, among other things and the second had an injured penis with a transection of his urethra and other injuries. Dr. T. M. Moore, assisted by the other doctors of Sitka and one doctor from Mt. Edgecumbe across the channel, did the surgery promptly and well. The two seriously injured men are going to recover promptly and with no serious disability.

I have never had so successful and carefree a clinic even though the work load was heavy and the amount of work that I can do every day decreasing with the advancing years. No youngster arrived in the surgery with a belly full of water. All medications were given properly as to dosage and timing. The anesthetics were skillfully given by Miss Barbara Carberry. And I had the matchless assistance of Mrs. Ellie Forbes and Mrs. Connie Marsh.

Ellie had never helped me before but she was an extraordinarily imaginative and gifted individual. Before the first day was over she was a dextrous assistant and made the surgery go extraordinarily well. There were no post-operative hemorrhages, no difficulties of any kind and the post-operative care on the wards was carried out as ordered, promptly, efficiently and with great imagination on the part of the entire staff. Laboratory work was done promptly and without complaint, even though it involved some work on the weekends on the part of Mrs. Marianne Ogle-tree.

Of course the proper organization of this clinic and all the thankless tasks fell into the capable hands of my wife, Betsy, and upon Brownie.

Since the total capacity of Sitka Community Hospital is 22 beds and since the usual emergencies and medical care of the population of Sitka had to go along as usual, one can easily imagine the extra effort and extra strain involved when an extra EENT load such as I have described was added. Nevertheless, there was no complaint and everybody, even those not directly involved, in and around the city of Sitka seemed to care and make an extra effort to make it easier for those whose loved ones were being operated upon or cared for medically.

In all instances where a written referral on a prescription blank, a phone call or letter had been received from the Sitka doctors I dictated a consultation note and sent it home for typing by my faithful secretary, Mary Hibpsman, herself recovering at the time from an otoplasty which I had done upon her three days before leaving for Sitka. In every case I tried to make it plain to those people who expressed themselves as being gratified at the convenience of having an EENT consultant in Sitka, that were it not for the cooperation of the local doctors and their invitation for me to be there, that I would not be able to do the work and would not come even though it is legally possible for me to do so. I went to considerable trouble explaining to them that if they were satisfied and happy with a clinic of this kind they only had their own physicians to thank since medicine has become so complex in the last 20 years that it is impossible for any physician, no matter how competent or ambitious or talented to understand all there is to know about medicine or perform all the operations which it was once possible to do as late as the last years of the last century.

Many of the patients were quite surprised, thinking that I came down on my own for unknown reasons or reasons of profit to do this work.

Of course the great thing as far as I, myself, personally, am concerned, is that a physician, in this case Dr. Philip Moore, thought enough of me as a man and as a physician to turn over his own private home and office to me, a relative stranger in order to better serve his community and make it possible for me to have a little fun at the same time.

Besides his home and office and the ping pong table, we also had his little Volkswagen combination car and truck to race around the beautiful



little city in. We took full advantage of this, remaining a great deal drier than would have been true had we walked. And we remained much more solvent too since it cost us \$8.00 to go by taxi the five miles from the Moore Clinic to the Ferry terminal.

We were so busy on this trip and there was so much administration and dictation to be done at the end of every day that we did not take our usual trip out to the end of Halibut Point Road or the other way to the Mill and Blue Lake. However, we did inspect the water front and admire the boats. One thing interested us greatly. There were a large number of very expensive outboards and inboard outboards, as well as regular fishing boats, that were very badly neglected. The engines were being allowed to sit in the salt water thus increasing corrosion and chafing gear and fenders were carelessly used or not used at all. There was a general air of slovenliness about all three waterfront areas which is quite surprising considering the cost of outboard engines and even the smallest vessel.

During the first 10 days of the clinic, blood flowed richly in Sitka. Thirty-five operations were performed:

Plastic Repair of Cicatrical Epicanthus.....	1
Excision of Chalazion .....	2
Eye Muscle Surgery .....	6
Submucous Resection of Nasal Septum.....	6
Dilation of Lacrimal Apparatus.....	1
Combined Rhinoplasty and Submucous Resection .....	1
Tonsillectomy .....	2
Adenoidectomy .....	1
T & A .....	15

One young girl of 16, with what I thought was a tumor of an accessory lacrimal gland, was referred to Dr. T. M. Moore. This tumor was attached to the episclera and I am very sorry that I did not get a photograph of it. It turned out to be the 27th case of its kind ever reported and it

was an episcleral osseous choristoma. It was duly reported to the Armed Forces Institute of Pathology, accompanied by a clinical history, sections made by Dr. Busteed of Seattle, who made the pathological diagnosis, but also no photographs! My fault.

We carried just short of 1000 pounds of baggage in order to bring off this extraordinarily satisfactory clinic.

Other statistical observations might be of interest. Three patients came from Petersburg, 6 from Juneau, 8 from Wrangell, 2 from Kake, 1 from Hydaburg, 18 from Mt. Edgecumbe and 316 from Sitka. One hundred thirty-seven patients were new and 217 had been seen before. There were 19 cancellations and 20 "no shows."

Three hundred thirty-two patients were private and 22 were beneficiaries of the various State of Federal agencies.

One hundred one pairs of glasses were prescribed.

We left for the next clinic still to be done about six months from July, 1965, 22 refractions, 2 ENT consultations, 7 submucous resections, 3 cases of sinus surgery, 3 tonsillectomies, 2 eye muscle cases, 1 unknown tumor of the globe (external) and 1 adenoidectomy.

In Sitka at least, itinerant clinics are fun and there is nothing that quite matches the satisfaction one feels after bringing one to a successful conclusion.

Almost every patient was enrolled in the so-called health and welfare plan underwritten by the Pulp Mill. By far the great majority of all the rest had some kind of insurance form to be filled out, a letter to be written to the referring doctor or some kind of administration. What this represents for 354 patients I hope can be appreciated.

We look forward to returning to Sitka in the early part of 1966.



# MUKTUK MORSELS

A COLUMN DEVOTED TO  
MEDICAL NEWS IN ALASKA

Compiled by

HELEN S. WHALEY, M.D.

## GENERAL

**Cardiac Clinic:** Three postgraduate sessions were held in Alaska during September. The annual Cardiac Clinic with a visiting group of consultants from the Mayo Clinic held clinics in Anchorage, Fairbanks, and Sitka during the first ten days of September under the auspices of the Alaska Heart Association, the Alaska Department of Health, and the U.S. Public Health Service. Participating physicians included: Dr. William W. Weidman, pediatric cardiologist; Dr. Ralph E. Smith, a cardiologist and internist; Dr. George D. Davis, radiologist; and Dr. Robert B. Wallace, cardiac surgeon. Dr. Paul G. Isaak, President of the Alaska Heart Association organized these sessions.

**Tuberculosis Seminar:** A tuberculosis seminar entitled, "Rational Therapy and Control of Tuberculosis," was held September 17, 18 and 19th at the Alaska Methodist University. This was sponsored by the Tuberculosis branch of the Communicable Disease Center, U.S. Public Health Service the Tuberculosis Control Section of the Alaska Department of Health, and the Alaska Tuberculosis Association. Dr. Robert Fraser, Tuberculosis Control Officer, Alaska Department of Health, arranged the details.

The Communicable Disease Center, Atlanta, Georgia, sponsored Dr. Sidney Dressler, George P. Kubica, Alfonso H. Holguin, and Mrs. Merilys Porter Brown.

Other out-of-state faculty members included Dr. Thomas Moulding, medical coordinator, National Jewish Hospital, Denver; Dr. Robert L. Mayock, chief, Pulmonary Section, Hospital of the University of Pennsylvania, Philadelphia; Dr. Margaret Smith, Department of Pediatrics, Tulane University School of Medicine, New Orleans; and Dr. George W. Comstock, John Hopkins University, Baltimore.

Alaskans on the symposium faculty were: Dr. Fred McGinnis, AMU; Dr. Lester H. Margetts,

President Anchorage Medical Society; Dr. Francis J. Phillips, FACS; Dr. Joseph H. Shelton; Dr. Philip H. Moore (Sitka), John Stern, President Alaska TB Association; Dr. A. B. Colyar, Director, Arctic Health Research Center; Dr. William J. Mills; Dr. Holman Wherritt, Medical Director, Alaska Native Medical Center; Dr. David Duncan, Medical Director for the Anchorage Borough; Dr. Walter Johnson, Chief of Medicine, Alaska Native Health Center.

## AAGP — Obstetrics — Gynecology Seminar:

The Alaska Academy of General Practice sponsored on Obstetrics and Gynecology Seminar with the help of the Eli Lilly Company on September 3-4 at Big Lake outside of Anchorage. Visiting speakers were: David C. Figge, M.D., Assoc. Professor, Obstetrics & Gynecology, University of Washington School of Medicine, and Wayne Johnson, M.D., Asst. Professor, Obstetrics & Gynecology, University of Washington School of Medicine, Seattle, Washington. A number of Anchorage physicians participated as moderators and panel discussants.

**ALASKA PSYCHIATRIC UNIT:** The new children's ward at the Alaska Psychiatric Unit was dedicated on September 9 by Mrs. Winthrop Rockefeller, President of the National Association for Mental Health. This is a 22-patient unit financed by a \$100,000 grant from the hospital improvement program of the National Institute of Mental Health. The grant is renewable for at least five years. It is staffed by Dr. Barbara Ure, child psychiatrist and most recently Coordinator of the Alaska State Mental Health Planning Commission. She is to be assisted by a well-trained child psychologist and psychiatric social worker. This group will also offer consultation to other agencies dealing with children such as school districts and will travel to all areas of the state to evaluate children with suspected emotional problems.



## DEPARTMENT OF PUBLIC HEALTH:

Alfred Baker of Ketchikan retired August 31 after 20 years of service to the Territory and State of Alaska in the field of sanitation. He received the first Service Certificate for performance and loyalty to be awarded by the Alaska Department of Health and Welfare.

During his 20 years of service, Mr. Baker served not only as Fisheries Technologist, Sanitarian and Aquatic Biologist, but he also has gone far beyond requirements of his position in carrying out his public health work with deep conscience, great zeal, and untiring devotion to the goals of the Division of Public Health.

Mr. Baker was born June 14, 1903 in LaConner, Washington. He received his Bachelor of Science degree from the University of Washington and had further training in science at Puget Sound Biological Station and the U.S. Public Health Service Robert Taft Sanitary Engineering Center in Cincinnati.

He and Mrs. Baker have sold their home in Ketchikan and plan to retire in Sumas, Washington.

Dr. Elizabeth Tower became full time health officer of the Alaska Department of Health and Welfare Southcentral Region on September 1.

Doctor Tower has been serving in the post on a part-time basis for the past year while continuing her private practice on a limited scale. She is a graduate of Western Reserve Medical School with postgraduate training in internal medicine at the Yale University service of Grace-New Haven Community hospital in New Haven, Connecticut.

She and her husband, Dr. John Tower, have resided in Anchorage for 11 years and are parents of four children.

## ARCTIC HEALTH RESEARCH CENTER:

Dr. Jacob Brody, Chief of the AHRC Epidemiology Section since his arrival in Alaska in October 1962, transferred on June 30, to the National Institute of Neurological Diseases and Blindness where he will be Chief of the Epidemiology Branch of NINDB.

Dr. James Maynard, Chief of the Epidemiology Section from 1960 to 1962 returned to AHRC in this same capacity in early September, following a year at CDC and two years' study at the University of California at Berkeley.

Dr. Jon Aase, a 1962 graduate of Yale University Medical School, who has recently completed a pediatric residency at the University of Washington, Seattle, has been assigned to study congenital defects in the Alaskan Native population. He is fulfilling his military commitment under the auspices of the National Institute of Child Health and Human Development in Bethesda, Maryland.

Construction of the new AHRC building at College, Alaska, began in April and is proceeding on schedule. Construction of the adjoining Alaska Water Laboratory was completed in mid-September and the staff of the AHRC Environmental Engineering Section has moved north to set up operations.

The majority of the early spring visitors to the Center were representatives of various divisions of components of PHS and DHEW, including the National Institutes of Health, the Division of Radiological Health, the Communicable Disease Center, the Division of Water Supply and Pollution Control, Region IX office, and the Children's Bureau. Visitors from outside DHEW included Dr. James R. Miller of the Pediatrics Department, University of British Columbia; John Slater of the Arctic Institute of North America; Dr. Robert A. Aldrich, University of Washington; and Dr. J. H. Petajan from the University of Wisconsin.

Dr. Colyar was appointed HEW representative to the Federal Field Committee for Development Planning in Alaska (successor to the post-earthquake Federal Reconstruction and Development Planning Commission for Alaska, headed by Senator Clinton Anderson). He attended the first meeting of the Field Committee in Juneau, April 13 to 16, during which time conferences were held with Governor Egan and his staff concerning formal organization of the group and assignment of responsibilities.

## UNITED STATES PUBLIC HEALTH SERVICE—DIVISION OF INDIAN HEALTH:

Advisory Committees: During September, both the American Academy of Pediatrics and the American Academy of General Practice sent an advisory team on Indian Health to Alaska who visited Anchorage and Kotzebue. The American Academy of General Practice Committee members were: Dr. Edward J. Kowalewski, Akron, Pa., chairman; Dr. Carroll L. Witten, Louisville,

Ky., president of the Academy and consultant to the Surgeon General; Dr. Paul S. Read, Omaha, Neb., and Dr. Herman E. Drill, Hoskins, Minn. The American Academy of Pediatric members present were: Dr. Harris D. Riley, Committee Chairman, Department of Pediatrics, University of Oklahoma School of Medicine; Dr. Allyn G. Bridge, Associate Professor (Maternal and Child Health), School of Public Health, University of Minnesota; Dr. Sidney R. Kemberling, The Tucson Clinic, Arizona; and Dr. Helen S. Whaley, Anchorage, Alaska.

The Health Aids Volunteer Program was strongly commended. An increased emphasis on a total medical program including preventive medicine was stressed. Physicians being assigned to outlying field hospitals are to have a 1-2 year period of rotation through the various specialty disciplines in the Anchorage Medical Center including pediatrics, surgery, and general medicine.

**Medical Care for Seamen:** The Public Health Service has contracted with doctors at Haines, Kodiak, Skagway and Valdez to provide medical care for owners of fishing boats under legislation approved last year, Sen. Ernest Gruening stated September 30, 1965.

Physicians who will provide the service are Dr. Stanley Jones, Haines; Dr. Robert H. Johnson, Kodiak; Dr. H. David Sammann, Skagway; and Dr. John E. Carr, Valdez, Gruening advised the Associated Press by wire from Washington.

Earlier, the PHS had made arrangements for such treatment at Annette Island, Cordova, Juneau, Ketchikan, Nome, Petersburg, and Seward.

At Anchorage, eligible seamen will receive routine and emergency in-patient and out-patient medical and dental care at the Anchorage Alaska Native Medical Center under special arrangements with the Division of Indian Health.

The Public Health Service is attempting to seek appropriate arrangements at Wrangell and in the Bristol Bay area, Gruening said.

**ANCHORAGE:** New physicians in Anchorage include the following: Dr. Gary W. Archer, a 1963 graduate of the John Hopkins Medical School, has joined the Doctors' Clinic in general practice. He had just completed a year of surgical residency at the University of Washington in Seattle. Dr. Paul L. Shetler, a 1963 graduate of the Loma Linda University in Los Angeles joined

Dr. Royce Morgan in general practice. He had completed a year of surgical residency at the University of Washington School of Medicine, Seattle. Dr. Philip C. Beck is associated with Drs. Beirne and Strauss in pathology. He is a 1960 graduate of the University of Arkansas Medical School. He has just completed a pathology residency at the Bernillilo County Indian Hospital in Albuquerque, New Mexico. A new husband and wife team of physicians include Drs. Arndt and Mariane von Hippel. Dr. von Hippel has completed two years of thoracic and cardiovascular surgery at the University of Iowa in addition to four years of surgery at the Boston City Hospital. He is certified by the American Board of Surgery. He is a 1953 graduate of the Massachusetts Institute of Technology and a 1957 graduate of Harvard Medical School. His wife is a pediatrician and a graduate of Vanderbilt Medical School. She had her residency in pediatrics at the Boston City Hospital. They have two small children.

The Navy Legion of Merit was awarded August 2 to Dr. William J. Mills, Jr. for exceptionally meritorious conduct in the performance of outstanding contributions in the field of cold weather medicine and surgery. This is the Navy's second highest peace-time award. Dr. Mills also spoke at the Washington State Medical Association meeting in September on survival in the north and cold injury.

Sister Barbara Ellen, Administrator of Providence Hospital, was recently elected President of the Alaska State Hospital Association. She succeeds Dr. Robert E. Fenstermacher, Administrator of the Maynard-McDougal Memorial Hospital in Nome. He now serves as a trustee on the executive committee. Sister Barbara Ellen has been administrator of the state's largest private hospital since it opened in October 1962, and has served as the administrator of several Pacific Northwest hospitals operated by the Sisters of Charity of Providence.

Dr. Michael F. Beirne has been elected President of the Anchorage Republican Club. Dr. Robert Wilkins, permanent secretary of the Alaska State Medical Association is the chairman of the Anchorage Concert Association season which opened with the American Ballet Theater. He also was a delegate to the recent AMA conference in Chicago on Medicare. Dr. George Wichman attended an orthopedic meeting in Germany. Drs. John and Elizabeth Tower attended the Northwest Pacific Pediatric meeting in Banff, Alberta, Canada.



da. Dr. James Coin is transferring as chief of radiology to the larger Sisters of Charity Hospital in Great Falls, Montana.

SITKA: Dr. Philip H. Moore recently participated along with other state orthopedists in a three-day seminar on Workmen's Compensation Insurance sponsored by the Alaska Department of Labor in Anchorage. He also spoke on the history of tuberculosis in children in Alaska at the Tuberculosis Seminar. Dr. Gordon Benner, currently stationed with the U.S. Public Health Service at Mount Edgecombe, participated with a Harvard University mountain-climbing group in a successful ascent of the previously unclimbed northwest ridge of 18,008 foot Mount Saint Elias. Mt. St. Elias is the second highest mountain in the United States and had been climbed only three times previously—in 1898, 1947, and 1964.

BETHEL: Dr. Harriet Schirmer, the only practicing private physician in the Kuskokwim-Yukon Delta, has removed her practice to Lavonia in upstate New York. She had been in the region about 12 years originally being associated with the Department of the Interior and later with the U.S. Public Health Service as the medical officer in charge at the Bethel Hospital. For the past 6-7 years, she has been in private practice. Dr. Schirmer also served as mayor of Bethel and was instrumental in promoting many of the civic improvements in this community.

SEWARD: Dr. Herbert H. James, Jr., who recently completed a surgical residency at the Swedish Hospital at Seattle and was formally from Butte, Montana, has joined Dr. Ernest Gentles in practice. Dr. Gentles continues as the director of the Tuberculosis Sanitarium at Seward.

KETCHIKAN: Dr. Donald E. Wadsworth has joined the three members of the medical Wilson family in family practice with an emphasis on obstetrics and pediatrics. He is a 1964 graduate of the University of Oregon and completed an internship at the U.S. Marine base at Camp Pendleton, California. Prior to going to medical school he worked as a Navy hospital aid in the Aleutians. He is married and has four children.

JUNEAU: Dr. Henry Wilde of the Juneau Clinic is now being processed for W.H.O., probably for medical service in Africa.

SOLDOTNA: Ground was broken for the construction of the new \$600,000 hospital in Soldotna on September 25, 1965, with Governor William A. Egan and Dr. Elizabeth Tower, Southcentral Regional Health officer, Alaska Department of Health, participating with the prime instigators of this new facility, Drs. Elmer Graede and Paul Isaak. This is to be a 32-bed hospital which will service the entire central Kenai Peninsula from Ninilchik to Cooper's Landing, an estimated population of ten to twelve thousand.

## FAIRBANKS.

Following are some of the happenings on the Fairbanks scene in medical circles as interpreted by Dr. Edward Meyer.

"If there is one thing certain about the Fairbanks medical scene, it is that it changes. I have been here three years and in that time, 14 doctors have come and gone in the town, itself. This is exclusive of military personnel, which changes much more lightening-like. At times it seems as though medicine lunges forward in Fairbanks three steps, but soon takes two steps backwards. One of our most pressing needs is a new hospital, but at the present this is hanging fire and the Nuns at St. Joseph are waiting word of whether or not they will get Hill-Burton funds so that they can proceed with a new hospital. Plans for the new hospital are drawn and everything is ready and awaiting financial commitments. The proposed hospital will be situated facing the Chena River, somewhat farther back from Cushman Street than the present hospital.

The most noted loss from the Fairbanks medical scene was that of Dr. Donald Tatum, a Board Certified Internist who had been in Fairbanks for the past seven years, most recently associated with the Tanana Valley Medical & Surgical Group. In his own quiet way, he contributed much to the medical scene and his competence and stability in medicine is sorely missed.

In the recent past, we have gained several excellent men, among them Dr. Henry D. Green, who arrived in Fairbanks this summer to relocate his practice of Anesthesiology, having come from Seattle, where he was assistant professor of anesthesiology at the University of Washington. Dr. Green received his M.D. from Washington University in St. Louis, went on to an internship at Madigan Army Hospital at Tacoma; served a three year residency at Walter Reed Army Hospital,

Washington, D.C., where he remained as chief of the department of anesthesiology for another three years. He is certified by the American Board of Anesthesiologists, is a Fellow of the American College of Anesthesiologists. He resides with his wife and five children on the Richardson Highway, Fairbanks. Dr. Green is in private practice.

The next three doctors have joined the Tanana Valley Medical Group: Dr. Waldo Hall Hanns, a Board eligible Orthopedic Surgeon, who arrived in Fairbanks in March of this year. He received his degree of Bachelor of Arts in bacteriology at the University of California at Berkeley and was associated at Stanford Medical School in Palo Alto, California in 1952. He resides with his wife and five children in Hamilton Acres section of Fairbanks.

Dr. Paul Leslie Stuck, a Board eligible Obstetrician and Gynecologist, who recently arrived here from Shreveport, Louisiana, received his M.D. from Northwestern University in Chicago and completed residencies at Elizabeth Hospital, Lincoln, Nebraska, and Lloyd Nolan Hospital, Fairfield, Alabama. He resides with his wife and two children in Fairbanks.

The last of the group is Dr. Robert Adolph Roth, who recently received his discharge from the U.S. Army at Ft. Wainwright. He has chosen to remain in Fairbanks and is practicing general medicine. He received his Bachelor of Science Degree from the University of Oregon and received his M.D. at the same university. He interned at Sacramento County Hospital in California and served a residency in general practice in Sacramento Hospital prior to being drafted into the Army.

Also, an expected change on the medical scene in Fairbanks is the return of Dr. John Fenner

in solo general practice. Dr. Fenner is again slated to join the Fairbanks Medical & Surgical Clinic in the field of General Practice.

Also slated to join the Fairbanks Medical & Surgical Clinic in the near future is Dr. Rollin Peterson, who was former medical officer in charge of the U. S. Public Health Service Native Hospital at Tanana.

Dr. Edward Meyer, FACP, who is Chest Consultant for the Fairbanks Health Center and the Northern Regional area, attended the Tuberculosis Symposium in Anchorage.

Dr. Joseph Ribar, delegate to the American Medical Association, left Alaska to attend a national meeting.

Dr. Henry Storrs, presently a member of the Fairbanks school board, is seeking election to the North Star Borough School Board. The staff meeting at St. Joseph Hospital, held monthly, are well attended. A lot of the problems await the beginning and completion of a new hospital, as the present St. Joseph Hospital isn't an accredited hospital, but with a new building and the present staff, especially the new hospital administrator, Sister Conrad Mary, creditation should be achieved.

The hospital staff voted to use \$800 towards beginning a hospital staff library. This has all been spent and the books are on the shelves and the doctors use them quite frequently.

All in all, the medical scene shifts almost from month to month. We continue to need specialists in certain fields, especially in Internal Medicine, Pediatrics and Psychiatry.

Recently, Hamilton Acres and the Timberline sections were annexed to the City of Fairbanks and the population is now 19,600.

That about finishes the present report.



# ALASKA MEDICINE

Volume 7, Number 4

December, 1965

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# Alaska Medicine

Volume 7, No. 4

December, 1965

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# ALASKA MEDICINE

*Official Journal of the Alaska State Medical Association*

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# CHILDREN'S BUREAU PROGRAMS IN ALASKA

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## INTRODUCTION

Authority and responsibility for maternal and child health services in Alaska was assigned to the Department of Health and Welfare by the "State Organization Act of 1959." This responsibility is administered by the Commissioner through the Branch of Maternal-Child Health and Crippled Children's Services of the Division of Public Health.

Impetus for this type of service began when Congress enacted the Social Security Act of 1935, Title V of which provided for annual appropriation of funds to be distributed to the states through the Children's Bureau for services to children and to women during pregnancy. All of the states and territories have such programs, varying in content and administration but exhibiting an overall similarity because of Children's Bureau regulations controlling expenditure of the Federal funds.

Allocation of these funds to the various states is according to formulas which weigh various factors—state population under age 21, annual number of births, per capita income, among others. Of the MCH and CCS general allocations, some are outright grants, others must be matched by state funds. In addition, special grants for a limited period may be awarded for a specific purpose or project. Between 50 and 60% of the Alaska MCH-CCS Branch budget is derived from Federal funds, the balance from State legislative appropriation.

## CRIPPLED CHILDREN'S SERVICES

Crippled Children's Services (CCS) seeks out children with crippling conditions, maintains statistical records on incidence and prevalence of such conditions, provides for specialist examination and diagnosis, and, for financially eligible children, furnishes optimum medical treatment for specific crippling conditions. Case finding efforts include birth certificate reviews, screening clinics, and referrals from parents, public health nurses, physicians, and school health programs.

To be eligible for services a child must be under twenty-one years of age and be suspected of having one of a number of eligible conditions. Those conditions currently covered are:

1. Tuberculosis of the bones and joints.
2. Other infections of the bones and joints such as osteomyelitis, suppurative arthritis, non-specific arthritis with deformity, osteochondroses.
3. Congenital deformities,
  - a. Clubfoot, metatarsus varus, dislocation of the hip, absence of bone, arthrogryposis, syndactylism, polydactylism, torticollis.
  - b. cleft lip and palate and other congenital malformations of eye, ear, nose, and throat.
4. Deformities resulting from old injuries to nerves, bones, tendons, or joints.
5. Deformities and paralysis due to poliomyelitis.
6. Disabling scars due to injury or burns.
7. Scoliosis.
8. Rickets.
9. Neoplasms of bones, muscles, tendons, and nerves.
10. Cerebral palsy.
11. Blindness, strabismus, inflammatory disease of the eye, pterygium, corneal ulcers or opacities, severe refractive errors.
12. Deafness, chronic infections of the middle ear, mastoids, tonsils, and adenoids.
13. Disabling conditions arising from injuries to eye, ear, nose, or throat.
14. Rheumatic heart disease.
15. Convulsive disorders.
16. Mental retardation.

The Commissioner of Health and Welfare designates the eligible conditions biennially in the State Health Plan using prevalence, cost of medical care, and available funds as guides. The types of problems requiring CCS care have varied with the stage of medical progress. Children with deformities due to bone and joint tuberculosis or with paralysis due to poliomyelitis are infrequently served now, whereas a few years ago they comprised the bulk of the caseload. Children with valvular heart disease and congenital cardiac anomalies for whom little could be offered formerly are helped increasingly each year.

Diagnostic and treatment services are rend-

ered by specialist medical consultants under contract with the Department. These services may be furnished in the physician's private office as with private patients, or in a clinic setting where efficient use of a visiting specialist's time makes it advisable. Transportation and boarding costs for a child and his parent may be provided if necessary for provision of optimum medical services. Occasionally, quite prolonged residence in a foster home may be necessary to make it possible for a child to receive needed care.

Other than medical eligibility by virtue of being suspected of having a covered condition, there are no other eligibility requirements for diagnostic services. All necessary medical resources including professional consultation, x-ray, laboratory, and hospital care can be provided. After it has been established that a child has an eligible condition, treatment services are furnished only after financial and residency screening to limit the service to Alaska residents who would not otherwise be able to obtain the care they need. Assistance, other than financial, in arranging for specialized medical care is available to all.

Crippled Children's Services attempts not only to provide the best possible care to those children directly served, but also to demonstrate to the community a standard of high quality medical service, to encourage its development, and to support it where it exists. To do this, the care rendered is continuously under professional supervision, only the best hospital facilities are used, and contracts are awarded only to medical specialists of demonstrated competence. Where Alaskan resources are insufficient or inadequate, patients are sent for care to medical centers in other states. Crippled Children's Services cannot assume financial obligation for a patient's care unless it has participated in the planning of the care and has given authorization for the care prior to its performance. In general, only medical care of proven benefit is authorized, research or investigative procedures not being approved for support by CCS.

One of the most widely known services of CCS is the annual cardiac clinic held each fall for the past eight years under joint sponsorship with the Alaska Heart Association and the Alaska Native Health Service. These clinics successfully combine top quality medical consultation and follow-up for individual patients with community and professional education programs. In 1965 at clinics held in Anchorage, Fairbanks, and Sitka, the consultants examined 250 patients, the majority of

whom were there as beneficiaries of the Alaska Crippled Children's Services. Those children needing further diagnostic evaluation or heart surgery are referred by CCS to one of two Regional Heart Centers financed by the Children's Bureau. These Regional Heart Centers are administered by the Crippled Children's Services' agencies in the States of Washington and Minnesota. The Washington Center uses the clinical facilities and professional staffs at University of Washington Hospital, Children's Orthopedic Hospital, and Providence Hospital, all in Seattle; the Minnesota Center has two clinical facilities, at Mayo Clinic in Rochester and the University of Minnesota Hospital in Minneapolis. Regional Heart Centers were established to provide clinical services for children in those states or regions in which there were inadequate local resources to provide this highly specialized care. Care for Alaska Children at these centers is paid for by the Children's Bureau without further charges to Alaska and without reduction of the annual allotment of Federal CCS funds.

Referrals from all sources are usually made through the local public health nurse or health center, but may also be made directly to the Regional Health Officers in Fairbanks, Anchorage, or Juneau. Each Regional Health Officer supervises the administration of the program in his region, determining eligibility, arranging for care, authorizing payment for care, etc., through the regional Medical Program representative. The central Branch office in Juneau develops programs and policies, prepares budget requests for the legislature, oversees fiscal accounting, arranges for hospital care outside of Alaska, and maintains permanent medical and statistical records on all children served.

Because of similarity in names, CCS is sometimes confused with the Alaska Crippled Children's Association, the Easter Seal voluntary agency. They are, of course, entirely separate and distinct, though cooperative, organizations with complementing programs and a few joint activities. The best examples of the latter is the support and use of professional facilities at the Anchorage Chapter (ACCA) Treatment Center by CCS in providing special care through a purchase contract.

In contrast to Crippled Children's Services, which is definitely a medical care program rendering intensive direct services to a limited number of individual patients, Maternal-Child Health activities generally are broad based, aimed at



large groups of individuals, and oriented toward prevention of illness or incapacity rather than repair and rehabilitation. Only in Alaska and a few other states of low population are these two separate types of activities combined in one agency. While this is a logical combination, such intimacy has led to loose terminology whereby Crippled Children's Services' medical care is frequently referred to as the "MCH program."

### MATERNAL AND CHILD HEALTH

Maternal-Child Health activities in most states include well child conferences conducted by pediatricians, prenatal clinics, family planning clinics, and hospital obstetric and nursery consultation services, etc., in addition to what is offered in Alaska. Alaskan MCH services are largely provided by the public health nurses. These are childhood immunizations, well child inspection and prenatal supervision in areas isolated from other medical care, prenatal parents classes, school health nursing services, health guidance classes, etc.

The Branch office undertakes limited surveillance of infant mortality and morbidity rates, birth rates, maternal mortality rates, and other statistical indices of the quality of prenatal and perinatal medical care. Professional guidance in the establishment of hospital standards for pediatric, nursery, and obstetric suites is provided.

The Branch establishes standards for school health programs and provides advice and assistance for school administrators and school physicians in program development. In cooperation with Special Education specialists from the Department of Education, criteria for evaluation of children for special classes are developed and promulgated. Medical advice is furnished the Child Welfare section of the Division of Public Welfare.

The MCH Branch is eager to serve as an information source for lay and professional persons interested in matters pertinent to the health of mothers and children. Inquiries are welcomed. Educational material is provided to individuals directly by mail or through the public health nurses and health centers. Curriculum advice and other assistance is available for anyone involved in health education on MCH subjects. The film library of the Health Education section receives MCH support and guidance. Fifty to sixty percent of the borrowed films are on subjects relevant to Maternal or Child Health. These films are available on loan to any responsible individual in Alaska.

### CHILD STUDY CENTER

In Anchorage the Child Study Center provides complete evaluation for children suspected of mental retardation because of slow intellectual, physical, social, or educational development. Evaluation includes complete pediatric examinations with indicated x-ray and laboratory tests, other special medical examinations as indicated, psychological testing, family-social evaluation, and observation by a child development specialist in structured learning situations. Detailed recommendations on medical care indicated, educational potential and desirable social placements are made to the child's family and personal physician.

Priority is given to children of preschool age and to those whose suspected retardation is complicated by other defects such as cerebral palsy, speech or hearing defects, blindness, etc. Referrals are accepted through the public health nurses or Regional Health Officers as with Crippled Children's Services. No charges are made for the services of the Child Study Center staff, but families are expected to pay for transportation and ancillary services according to their means. Several times a year the Child Study Center staff conducts demonstration clinics in other cities.

National interest in mental retardation has been high in recent years and has led to increasing Congressional appropriations for services to children, much of which is earmarked for services to the mentally retarded. Amendments to the Social Security Act in 1963 and again in 1965 provided more money to the states for CCS and MCH activities; further increases have been authorized for MCH and CCS, Public Law 89-97, best known for its health insurance for the aged provisions, offers financial support for many new kinds of programs to serve children. Those states who wish to avail themselves of these funds must develop the new programs and provide some matching funds.

One of the most active programs of the MCH Branch is conducted by the Speech and Hearing Section. Under the direction of a Speech and Hearing Specialist, school hearing testing is encouraged, audiometric interpretation and consultation is provided, audiometry is offered through health centers and public health nurses, and teachers are taught to detect early hearing loss or speech defects through their normal classroom activities. Voluntary and official organizations are helped to develop an awareness of the importance of communication disorders so that early correction or alleviation will be possible.

# THE PRIVATE PHYSICIAN IN THE MODERN TREATMENT OF PULMONARY TUBERCULOSIS

ROBERT I. FRASER, M.D.

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ANCHORAGE, ALASKA



*Dr. Fraser*

The spectrum of the disease tuberculosis has changed considerably in the past decade, and this change necessitates reconsideration and re-evaluation of the role of the private physician in the treatment of pulmonary tuberculosis. In the brief paragraphs of this article an attempt will be made to consider superficially the changes in the disease and treatment, the advantages of the private physicians handling tuberculosis, the disadvantages, and the program of treatment and follow-up as envisioned and as being developed by the Tuberculosis Control Unit of the State of Alaska.

Tuberculosis is now a medically treatable disease. With appropriate triple drug therapy (daily Isoniazid-PAS-Streptomycin), active cases of tuberculosis can be rendered noninfectious in two to six weeks. Prolonged bed rest is no longer considered necessary or even advisable.

If ideal therapy of minimal tuberculosis is continued for a full two years tuberculosis may not only be considered arrested but in minimal disease tuberculosis can probably be cured. More advanced cases of tuberculosis have a good chance of having their disease permanently arrested. With ideal programs of initial therapy in new cases of tuberculosis, bacteriological conver-

sion and arrest or cure of the disease should approach 100 percent.

In contrast to this, however, it needs to be emphasized that failure of the initial treatment program to result in arrest or cure of the disease condemns the patient to prolonged therapy with drugs that have significant side effects, and with an end result possibly not as satisfactory as with successful initial therapy.

## PRIVATE PHYSICIANS IN THE TREATMENT OF PULMONARY TUBERCULOSIS

### Advantages

1. Special care by a physician who assumes individual responsibility for his patient—the ideal type of medical care.

### Disadvantages

1. Many physicians do not have the training or experience in the treatment of tuberculosis.
2. General hospitals are unwilling to accept tuberculosis patients for even a short-term hospitalization.
3. The responsibility for long and expensive therapy.
4. Prolonged follow-up necessary for a minimum of five years.

There can be no doubt of the advantages to the patient of care by a private physician who accepts complete responsibility for them. This is ideal medicine. This ideal type of medicine, however, is expensive for the individual because the treatment program is prolonged and continued close supervision is necessary for an even more prolonged period of time following completion of therapy. Furthermore, this program of treatment demands considerable responsibility on the part of the private physician. It requires that the physician be knowledgeable in the treatment of tuberculosis and its current concepts. With tuberculosis recently deemphasized in medical school and postgraduate training programs, this is somewhat difficult to obtain. If the private physician has the knowledge and is willing to assume the long term responsibility for treatment and follow-up of patients with tuberculosis, the disease may now be ideally handled by the private physician.



The disadvantages of treatment of pulmonary tuberculosis by a private physician are equally obvious. The best opportunity for cure or permanent arrest of the disease depends on the initial program of chemotherapy, and as mentioned before, if this opportunity is "goofed," the outlook for arrest and cure of the disease are far less optimistic, and may necessitate prolonged hospitalization and treatment with more toxic and less effective drugs. If the private physician does not assume responsibility for follow-up on household and close contacts of the patient with active disease, a local epidemic situation of new cases of tuberculosis may develop.

Since tuberculosis is a contagious disease and represents a major public health problem in the State, tuberculosis control and treatment must be a major consideration of the State Division of Public Health, which is concerned with the overall health program of the residents of Alaska. Furthermore, since the disease tuberculosis may involve and often does involve segments of the population that are unable to afford a prolonged treatment program, and since the disease requires prolonged follow-up and review, the states in general, assume primary responsibility for the treatment of tuberculosis. In Alaska, the Tuberculosis Control Unit has attempted and is attempting to develop a program, which is in keeping with the concepts mentioned in the paragraphs previously, and to provide the best possible treatment and follow-up program. Hospital facilities are available for short-term therapy of cooperative patients, while they are infectious, and long-

er term treatment of patients who require more prolonged hospitalization. The State utilizes the facilities of the Wesleyan Hospital in Seward, and occasionally, Firland Hospital in Seattle. The occasional treatment problem with resistant *Mycobacterium tuberculosis* organisms are sent to the National Jewish Hospital in Denver, Colorado, for retreatment programs.

To provide continued outpatient therapy and the necessary prolonged follow-up and to assist the private physicians in treatment of their patients with tuberculosis, the State has encouraged the financial support and the establishment of outpatient chest clinic facilities, which are staffed by private physicians interested and knowledgeable in chest disease and tuberculosis, and financially supported by the State for the services rendered. These clinics are operating satisfactorily in Juneau, Anchorage, Fairbanks, Ketchikan, Nome and Kodiak. Private physicians may feel free to refer tuberculosis suspects to chest clinics for evaluation or treatment and prolonged follow-up. The United States Public Health Service Native Health Service has established chest clinics with similar purposes in their field hospitals in Bethel, Kotzebue, Barrow, Tanana, and Kanakanak, and in the referral hospitals at Anchorage and Mt. Edgecumbe. In more remote areas of the state, the State has received financial support from the Communicable Disease Center of the U.S. Public Health Service to further expand a program of outpatient chest clinic services.

A statewide program of outpatient chest clinic consultation and treatment services supported by the State would seem to be a necessary, effective and logical approach to insure the prolonged treatment necessary to arrest or cure tuberculosis, to provide services for the evaluation of household and close associates of new cases of active tuberculosis, and appropriate chemoprophylaxis or preventive therapy, and to provide the long term follow-up for many years of patients who have had tuberculosis, ensuring their continued stability and freedom from disease. With good programs of casefinding and improved tuberculosis bacteriology laboratory facilities, control of tuberculosis in Alaska would seem feasible and obtainable goals in the not too distant future.

## **HOSPITAL THERAPY**

### **Advantages**

1. Opportunity to promptly detect drug reactions and adjust therapy program to the patient has real advantages for beginning treatment for the patient and allows development of medication routines.
2. Immediate availability of laboratory services.
3. Consultations.
4. Supervision to insure that medication is received.

### **Disadvantages**

1. The obvious disadvantage is being away from home and employment, with associated problems of boredom.

# FUNCTIONS AND SERVICE OF THE PUBLIC HEALTH LABORATORIES IN ALASKA

RALPH B. WILLIAMS, D.P.H.

Director, Branch of Laboratories

JUNEAU, ALASKA

Doctor Wilson G. Smillie, Professor of Public Health and Preventive Medicine, at Cornell Medical College has said, "An official public health organization cannot function effectively without its own public health laboratory. The laboratory is an important adjunct to every division of public health activity and is one of the most valuable means of winning support of the whole health department. The Department of Public Health is dependent upon the laboratory for diagnostic aid. Thus, free laboratory services to the physicians is to some degree, at least, compensation for their services in the reporting of cases of contagious disease that occur in their practice. Confidence of the physicians in the laboratory wins their confidence and support of other activities of the general public health program." (1)

Scientific thought plays a very important role in public health. The immediate purpose of scientific thought is to make accurate predictions of events in nature. (2) The ultimate purpose is the survival of mankind. The public health laboratory was conceived and nurtured in an atmosphere of scientific research. It has been a basic instrument for the control of communicable diseases and environmental health problems, we can look with pride to the important role laboratories have played in the outstanding epidemiologic studies of diphtheria, typhoid, malaria, hookworm disease, tuberculosis, and many other infectious diseases, and the laboratories continue to be a most important fact finding center of the Division of Public Health. Because of the long standing recognition of value of these functions, the public health laboratory has become one of the most necessary and stable branches of health departments (3).

Historically public health laboratories, among the oldest service functions of health agencies, have been established at the federal, state, and local levels to provide laboratory services covering the fields of public health interest. The public laboratories are not in the true sense of the word policy making units, branches, or divisions.

The laboratory does not initiate or draw up plans for a campaign aimed at the control of diseases, with all the implications in the fields of epidemiology, clinical medicine or public relations.

The laboratories of the Alaska Department of Health and Welfare have been conceived as a service branch organized and administered to do whatever work is practicable and necessary to implement major control programs initiated not only by the Department, but also by other state departments, as well as to serve practitioners of the healing arts and the local health officials when public health laboratory work is required. The Branch of Public Health Laboratories is one of the administrative branches of the Division of Public Health, Department of Health and Welfare. This branch is charged with the responsibility of furnishing public health laboratory services through its system of three regional laboratories. The objectives of the Branch of Public Health Laboratories are to provide laboratory information to local, regional, and state agencies, physicians and other professional persons throughout the State with necessary laboratory data for the diagnosis and investigation of communicable and, when indicated, chronic disease whenever they may occur within the State of Alaska and are of community interest; to provide laboratory information to local, regional and state health officials on the sanitary quality of water, shellfish, and other food products; to offer referral service to other laboratories in the critical identification of disease producing organisms; to conduct evaluation and certification programs of public health and other laboratories within the State; to provide smallpox vaccine and other biologics for the prevention of disease and to increase the level of immunity within the community; to prepare for distribution specimen outfits; and to provide, through training programs, seminars and workshops, instructions to laboratory personnel with the State.

Public Health Laboratory services are required in addition to those of private bioanalyti-



cal laboratories and clinical laboratories within hospitals or private physicians' offices for supplementing the information not otherwise available for studying disease within the mass of the population. Due to the size of the State, the distribution of local health officials and physicians and available transportation facilities, regional laboratories were established in Juneau, Anchorage, and Fairbanks. The ease of securing not only public health laboratory diagnostic service but specimen outfits, vaccines, etc., had undoubtedly contributed greatly to the advancement of public health work in the areas served by these laboratories. The extent to which the laboratories are utilized may be used as an index to the effectiveness of a health program in the community. The Department of Health and Welfare is dependent on the physicians in determining to what extent communicable disease prevails in the community. Accurate diagnosis is the keynote for a successful health program. The physician is dependent upon the laboratory to render reliable, accurate and prompt services.

If we accept the concept of public health as being the scientific diagnosis and treatment of the body politic, how may we determine whether a given technique, sputum culture, for example is a public health procedure or a therapeutic medical practice procedure? Let us first consider how to determine whether a specific technique is a clinical service or a public health laboratory service. The physician takes the specimen and he may seed it on culture medium or send it to a pathologist for cultural study. They do exactly what the public health microbiologist does; but this does not make them public health microbiologists, nor does the same procedure done by the microbiologist make him a clinician or pathologist. The facts that determine the profession is not what is done, but why it is done. The primary purpose of the physician is to establish a diagnosis of his patient's health status. His aim is upon the whole patient. It is his competence, his responsibility and his chief concern. The public health microbiologist has a different goal. It is the diagnosis of the disease. His aim is at recovery of the etiological agent, the tubercle bacillus. This is the microbiologist's competence, his responsibility and his primary concern.

When a qualified public health worker immunizes a child, he is doing the same thing as any private physician, but does not have the same reason. The basic reasons are different. The public

health goal is increasing the level of immunity for the total of community. The community is the public health patient. The practice of public health emphasizes promotive and preventive medicine. Even more distinctively it is concerned with groups, populations and communities rather than with individuals in relative isolation.

There is no conflict between the public health microbiologist and the pathologist and there need not be between the physician and the public health practitioner when they both understand this reason for public health purposes and objectives. Any conflict or misunderstanding with clinical medicine is eliminated with a definite understanding of the purposes of public health. Public health workers are not practicing medicine, preventive, curative or any kind, upon individuals. The individual, indigent or nonindigent, is not responsibility of public health. This is the practicing physician's responsibility and concern. Public health is concerned with providing means for community diagnosis, community treatment, community protection, and the promotion of community health. (4)

The history of public health has been a story of man's endeavors to protect himself, his family and community against disease and premature death. Its role today must be enlarged to include provisions for the positive protection of the healthy against adverse influences of a highly complex technological society which operates in ever more crowded communities. Modern urbanization lends itself well to the application of mass methods for prevention of illness (detection, protection, prevention, and health promotion). Consequently, this social change will have a great influence upon the future direction of public health laboratory applications in Alaska and the Nation.

Public health is not static and with the increasing control of communicable diseases in most parts of the world and shifts in the life span it becomes evident that chronic and non-infectious diseases are within the concepts of its activities. The emphasis of the role of the public health laboratory in dealing with these "new" diseases and problems should not be taken to imply that the traditional services and research activities of the laboratories are becoming obsolete. There is still a most urgent need to continue and through basic and applied research to improve those services of the laboratory which have contributed so much to communicable disease control.

The future public health laboratories will be closely associated with the overall community health programs covering at least five broad areas activities; (1) infectious and communicable diseases, the traditional field of epidemiology and laboratory. In this area the laboratories will become involved in community studies centered on problems such a newly discovered enteric and respiratory viruses and the diseases they produce; (2) the field of chronic and degenerative diseases such a metabolic disorders, diabetes, hypertension, cancer, etc.; (3) the laboratory will be used in attempts to determine the epidemiologic approach (genetic and biochemical) to mental disease, a public health problem of rapidly increasing significance; (4) recent emergence and increasing magnitude of environmental health problems and newer hazards to mankind; and (5) the needs of certification and/or licensure of public health and clinical laboratory services are as essential and valuable to many of the newer activities as they have been to the older ones. There can be little doubt, therefore, that public health laboratories must be prepared to expand the scope and volume of their activities.

The laboratory functions, to be useful and meaningful, must be properly integrated into the total pattern of disease prevention and health promotion in Alaska. While the activities of public health laboratories in Alaska vary to a degree in individual regions and localities, they will in general fit into the whole or part of the following categories of laboratory functions and services.

## LABORATORY SERVICES:

### A. From Whom Specimens are Accepted:

1. Specimens from human sources in the diagnosis and control of communicable disease and when indicated chronic disease.  
Physicians, M.D., (both private physicians and health officers).  
Dentists  
Public Health Nurses (when authorized by a physician or official health agency.)
2. Specimens from food handlers as directed by Commissioner of Health and Welfare or his authorized representative.
3. Foods in food poisoning or epidemics as directed by Commissioner of Health and Welfare or his authorized representative.
4. Rodents, birds and insects as vectors, from health agencies as directed by Commissioner of Health and Welfare.

5. Animals in the control of rabies from health officers, public health nurses, veterinarians, physicians, State Police, local police, U.S. Marshal, and deputies and owners of dogs, cats, etc.
6. Water samples for potability and other use received from health officers, public health nurses, sanitarians and/or from individuals under direction of the Branch of Environmental Health.
7. Routine shellfish and food samples for sanitary control as directed by the Branch of Environmental Health.
8. Milk and other dairy products in tracing source of epidemics as directed by the Commissioner of Health and Welfare or his representative.

### B. Specimen Outfits and Transportation:

1. Refer to postal regulations 1953 U. S. Official Postal Guide. Article 39: Chapter IV. Mailability and Packaging.
2. We are confronted with transportation problems in Alaska that make shipment of specimens to the laboratories rather difficult. These problems must be solved in most cases by the individual submitting specimens. No hard and fast rules are possible, but air transport is recommended where practical.

## PREPARATION OF SPECIMENS:

It has been stated many times that a laboratory examination is no better than the manner in which the specimen is collected and transmitted to the laboratory.

Simple rules and precautions must be observed if accurate and reliable analyses are to be the result. The Branch of Public Health Laboratories' standard forms, properly filled out, should accompany all specimens. The directions for the collection and preparation of specimens that appear on the forms accompanying the specimens outfits should be read and followed. The specimen outfits are few in number and with a little extra observation individual collection specimens for examination can become so familiar with the appearance of the outfits and transport media that they will know when these are not satisfactory for use and the entire outfit can be returned and replaced.

As a word of caution the following facts should be kept in mind and followed: careful spacing of specimens to avoid breakage and leakage; use of



transport medium that is neither liquefied nor dried; in the preparation of cultures, proper application of the swab to the surface of the lesion and thorough inoculation of the medium; careful handling of the swab used in collecting a specimen to prevent its coming in contact with surfaces other than those to be cultured; the preparation of thin films of blood and exudates so that they will be sufficiently translucent for staining and subsequent microscopic examination; the submission of sufficient quantity, as in the case of specimens of blood for serologic tests for syphilis; the proper care and handling of syringes used in collecting blood, in order to avoid hemolysis of the specimen; the proper handling to safeguard laboratory personnel who must receive and examine the specimens. Every precaution should be taken to avoid the possibility of an interchange of specimens before shipment. Tubes identified by good adherent labels and accompanied by identification forms help avoid interchange of specimens.

After specimens have been prepared, they should be mailed or delivered to the laboratory promptly, for many are rendered unsatisfactory because of delay in mailing or length of time in transit. If kept at room temperature blood specimens may become hemolyzed, throat cultures overgrown with contaminating microorganisms; and in the case of fecal specimens, etiological agents of enteric diseases may be destroyed by the products of bacterial decomposition. Guard against freezing as blood specimens may be quickly rendered unsatisfactory due to hemolysis.

The observation of postal laws and regulations regarding the kind of specimens admitted to the mails, the containers to be used, and directions for packing will expedite delivery.

Program included in decentralized laboratory facilities and services.

#### 1. Communicable Disease Control:

##### (a) V. D. Control — Services Offered:

- V.D.R.L. Test on blood specimens
- V.D.R.L. Quantitative Test on blood specimens
- V.D.R.L. Test on spinal fluids
- Special Serological studies (multiple tests, etc.)
- Protein determinations on spinal fluids
- Colloidal Gold Curve on spinal fluids
- Darkfield Examinations
- Examinations for Chancroids, etc.
- Gonorrheal

Smears

Cultures

Special V. D. Surveys and Research

##### (b) Tuberculosis Control:

Services offered.

Tuberculosis

Smears on request.

Cultures, susceptibility tests

##### (c) Communicable Diseases—(Other than V.D. and TB)

Services offered

Feces for bacillary (enteric disease, all)

Urine for bacillary

Blood and blood clot cultures

Feces for parasites

Agglutination Tests

Typhoid

Salmonellosis

Undulant fever

Tularemia

Typhus and Rocky Mountain Spotted fever

Diphtheria Cultures

Virulence Tests for *Corynebacteria*

Trichinosis Flocculation Test

Food Poisoning—Bacterial

Botulism

Salmonellosis

Staphylococcus

Food Poisoning—Other

Shellfish, etc.

Agglutination for infectious jaundice

Infectious mononucleosis

Rabies—direct smear, fluorescent antibody and special studies FRA

Mycoses

Smears

Cultures

Meningitis (Meningococcic)

Smears

Cultures

Staphylococcal and Streptococcal Infections

Smears

Fluorescent Antibody

Cultures

ASTO Titers

Fluorescent Antibody Testing on Enteropathogenic *E. coli*.

Special studies only, Virus Diseases

Many special and miscellaneous examinations and research

Distribution of Biologicals for the pre-

vention and control of some communicable diseases

2. Dental Health:

Services offered.

Vincent's Smears

Miscellaneous Smears and Cultures

Darkfield Examinations

3. Maternal and Child Health:

Services offered.

Blood Grouping and Rh Factors

Examinations found listed under Communicable Disease

Control as applied to maternal and child health programs

4. Public Health Nursing:

Services offered.

Examinations listed under Communicable Disease

Control and coordinated through V.D., T.B., and C.D. Program.

5. Environmental Health

Services Offered.

Bacteriological analysis of water and waste waters.

Microbiological examinations of foods.

Microbiological examinations of shellfish.

Bacteriological of dairy products in disease control.

### BIOLOGICALS DISTRIBUTED THROUGH LABORATORY SYSTEM

1. Cholera Vaccine (India Strain)
2. Coccidioidin.
3. Diphtheria Antitoxin.
4. Diphtheria-Tetanus Toxoids Combined, Fluid.
5. Diphtheria-Tetanus Toxoids (Adult) Alum. ppt.
6. Diphtheria-Tetanus & Pertussis Vaccine Combined.
7. Histoplasmin.
8. Poliomyelitis Vaccine (Salk and Sabin).
9. Rabies Vaccine (Duck Embryo) Dried Killed Virus.
10. Anti-rabies Serum.
11. Silver Nitrate Ampoules, 1 per cent.
12. Smallpox Vaccine.
13. Tetanus Antitoxin, Prophylactic 1500 units.
14. Tetanus-Gas Gangrene Antitoxin Prophylactic.
15. Tetanus Toxoid, Fluid.
16. Tetanus Toxoid, Alum. ppt.
17. Tuberculin, PPD, First Test Strength.
18. Tuberculin PPD, Intermediate Test Strength.
19. Tuberculin PPD, Second Test Strength.

20. Tuberculin, Tine Tests. (Rosenthal).
21. Typhoid-Paratyphoid Vaccine.
22. Typhus Vaccine. Epidemic Type.
23. Yellow Fever Vaccine (Distributed **only** in Anchorage. Administered only at Greater Anchorage Borough Health Center.)
24. Measles Vaccine, alive.

### SUMMARY OF AIMS

- (a) The objectives of the Branch of Public Health Laboratories are: to maintain and improve the present diagnostic services so that each Branch utilizing the laboratories as well as the physicians, medical institutions, etc., can be assured of prompt, accurate and reliable laboratory support.
- (b) To render assistance by detecting communicable and chronic diseases in the individual, serve as a control of the therapy that is administered and to give indications for release from isolation.
- (c) To assist in obtaining information concerning the prevalence of communicable and chronic diseases in the community; in other words, the extent to which the laboratories are utilized may be used as an index to the effectiveness of a public health program in the State, Region or Community.
- (d) To maintain and establish laboratory procedures necessary in the conducting of environmental health investigations and functions.
- (e) To aid in the establishment of base-line information relative to public health in Alaska.
- (f) Determination of needs and resources related to public health and bioanalytical laboratories in Alaska.

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3. Proposed report on Educational and Experience Qualifications of Public Health Laboratory Workers. Am. Jour. Pub. Hlth. 40: 1000-1005, 1950.
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# THE EMERGENCY HEALTH SERVICES

By **LARRY M. BELMONT**

Health Mobilization Consultant  
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The Health Mobilization Office is a section of the Branch of Community Health, Division of Public Health operating on three levels or in three related programs: first, the individual is being taught to meet his own health needs in an emergency through Medical Self-Help training, which is administered by the Alaska Department of Health & Welfare. Second, emergency medical stock piling is accomplished by the Packaged Disaster Hospital program. Thirdly, the public health of Alaska must be maintained during a disaster, and this is accomplished by the Emergency Health Service Plan of the Alaska Department of Health and Welfare.

## **MEDICAL SELF HELP**

Medical Self-Help, the first pre-disaster obligation of the Division of Public Health to the public, is an emergency medical training course offered to the public free of charge. This training differs from First Aid by being more public health oriented, and it is based on the premise that the services of physicians are not available; therefore, any medical care administered must suffice for an extended duration. This then makes Medical Self-Help an excellent medical course for the many isolated communities of Alaska and for the Alaskan sportsman.

The American Medical Association has endorsed Medical Self-Help, and many of Alaska's private physicians have volunteered their services in various Medical Self-Help courses. This has helped a great deal in stimulating the interest of the public in Medical Self-Help. In a few states the Womens Auxiliary of the State Medical Association has assisted AMA by sponsoring several Medical Self-Help courses as public service projects. This could also be done in Alaska.

Before departing from Medical Self-Help it may be well to briefly outline the eleven lessons which composes the course: Radioactive Fallout and Shelter, Healthful Living in Emergencies, Artificial respiration, Bleeding and Bandaging, Fractures and Splinting, Transportation of the Injured, Burns, Shock, Nursing Care of the Sick and Injured, Infant and Child Care, and the final lesson is Emergency Childbirth.

## **PACKAGED DISASTER HOSPITALS**

In a disaster the individual would first rely upon his Medical Self-Help Training in order to

meet his own health needs. The next step of medical care would be the local hospital and the local physician who staffs the community hospital. However, the U.S. Public Health Service has estimated that in a thermonuclear attack upon our nation 70% of the 1,700,000 hospital beds could be destroyed. In consideration of this, and the natural disaster problem, the Alaska Department of Health and Welfare has pre-positioned Packaged Disaster Hospitals in each of the following Alaskan Communities: Ketchikan, Sitka, Juneau, Cordova, Seward, Homer, Kenai and Nome; Fairbanks and Anchorage each have two making a total of twelve.

A Packaged Disaster Hospital (formerly called Civil Defense Emergency Hospital) is a complete 200 bed medical and surgical hospital with 30 day supplies, completely packaged in approximately 660 boxes weighing about 45,000 pounds. So stored, the Packaged Disaster Hospital can be used in three ways, which makes it a versatile health resource for the community. The first and primary use of a PDH should be as supplemental supplies and equipment to an existing hospital facility; second, a PDH can function as aid stations or separate treatment facilities; ultimately, the PDH can serve as an austere but completely functional 200 bed hospital when erected in an existing building.

An operating Packaged Disaster Hospital is composed of approximately ten sections with specialized supplies and equipment for each function. Looking quickly at the PDH during a disaster, we see the following activities:

1. Admitting and Triage Area: Patients are tagged with medical identification and record card. The Triage Officer makes a quick diagnosis as to which ward the patient must be taken.
2. Wards: Patients are treated for shock, burns, etc., and wards are set up as conditions require.
3. Holding Ward: Patients with poor prognosis receive paliative treatment.
4. Operating Room: There are three complete operating rooms.
5. X-ray and Fluoroscopic Services: Packaged Disaster Hospitals use Poloroid radio-graphic paper which can be developed in 60 seconds.

6. Clinical Laboratory: All needed equipment and material for routine clinical tests are supplied.
7. Power and Water Section: Two 10 KW generators can supply auxiliary power if needed. Each PDH has a water pumping unit and a 1500 gallon water storage tank.
8. Pharmacy: Most of the drugs are supplied ready for use.
9. Central Supply has two subsections:
  - (a) Preparation: Here supplies are sterilized for immediate use and reuse.
  - (b) Storage: Supplies are dispensed in small quantities to various sections, bandages, etc.
10. The Mortuary Area: It should be located in an out of the way area of the hospital.

An important aspect of the PDH section, is that the Packaged Disaster Hospital Chief of Staff can rearrange the hospital as he chooses or as the particular disaster requires. For example, he may desire only one operating room and a very large first aid section, depending, of course, upon the type and number of casualties.

Each Packaged Disaster Hospital has a utilization plan which lists the key personnel assigned to such positions as the PDH Chief of Staff, the PDH Administrator, the Triage Officer, the PDH Chief of Nursing and the PDH Procurement and Supply Officer, to name a few. The responsibilities of this cadres staff is also expressed in the utilization plan. The plan also lists those agencies, state and private, who have offered their assistance in providing the necessary hospital services not contained in the Packaged Disaster Hospital, such as food procurement and preparation, water, transportation and laundry services. It should be mentioned here that the utilization plan will also designate the building which will serve as the operational site. The Packaged Disaster Hospital must be erected in an existing building, preferably a school, for it has no tent or outside protection for its facilities.

Staffing a Packaged Disaster Hospital is a difficult problem in Alaska because of the limited medical personnel in the smaller communities. A completely staffed PDH requires 10 doctors, 6 anesthetist, 34 nurses, 128 medical aides (nurse aide, ward maid, orderly, first aid technician and etc.). The total staff would number 316. This is, of course, the ideal staff. In a disaster this medical help may not be available, and in such situations we must rely upon such volunteers as vet-

erinarians, dentists, pharmacists, nurses and other allied health personnel to operate a PDH. Using the allied health groups in a disaster is referred to as expanded functions. This means, in a disaster they must assume duties expanded beyond their particular field when the services of a doctor are not available to the public.

When a disaster strikes, physicians located in the larger communities of Alaska may be asked to assist the PDH Chief of Staff in the less populated areas, for, cities, with only one or two physicians, obviously cannot operate a PDH by themselves. It should be stressed, however, that any physician volunteering his service should confirm the need for assistance through the Department of Health and Welfare, for in some emergency situations the PDH may be used as aid stations, and technical medical skills may not be required at that time.

### EMERGENCY HEALTH SERVICE PLAN

The third level of disaster preparation is the Emergency Health Service Plan of the Alaska Department of Health and Welfare. The plan describes the organization and operation of the Department in protecting the public health of the general public during an emergency. Each public health region of Alaska has a plan which is suited for that particular area. The regions and the Regional Health Officer, who serves as the Regional Emergency Health Service Chief, are listed as follows: The Southeastern Region, Health Officer Dr. Jack Lesh; the South Central Region, Health Officer Dr. Elizabeth Tower; and Dr. Lionel Richardson is the Health Officer in the Northern Region. Dr. Thomas R. McGowan, Director, Division of Public Health, is the Chief of the State Emergency Health Service Plan which coordinates the regional plans at the state level. Because of the vastness of our state the regional plans seem to work more effectively. With such individual plans each region can operate autonomously in local disasters, as did the South Central Region in the Good Friday Earthquake.

### SUMMARY

The Alaska Department of Health and Welfare is preparing for disasters by teaching the individual citizen to meet his own health needs through Medical Self-Help. Next we are supplying communities with Packaged Hospitals for the medical needs of the general public in a disaster. But ultimately, we are concerned with our main responsibility, the public health of Alaska in both peace time and when a disaster strikes.



# COMMON SENSE

By AMOS J. ALTER

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JUNEAU, ALASKA

WHO wants to drink water that is mixed with sewage?

WHO would like to eat with a fork that is literally alive with disease germs?

WHO wants to eat a piece of pie that a sewer rat has wiped his feet on?

NONE OF US! YET we do at times. For frequently unsanitary conditions cause sickness and even death to lurk in apparently harmless food and drink. Faulty plumbing may mix sewage with drinking water. Improper washing and disinfection of eating utensils may leave thousands of disease germs on them. Rats frequently live in the same buildings with people and share the same food with man without cleansing the filth from themselves before enjoying their meal. Such are the threats surrounding us daily as we strive to live free from illness.

Similar sanitation problems confront us in Alaska. Development of the State, the growth of Alaskan communities, and transportation connecting much of the State with all parts of the world have increased the sanitary problems associated with water supply, sewage disposal, garbage and refuse disposal, housing, foodhandling, and the concentration of large numbers of people in small places.

The science of people keeping healthy through the observance of sanitation has grown by necessity from the few simple sanitary regulations drawn up by Moses in biblical times to a modern science founded on bacteriology, biology, physics, chemistry, and engineering.

Men trained in sanitary science are employed by the government to assist individuals, communities, and the State in solving sanitary problems and preventing the occurrence of illness caused through unsanitary conditions.

The Environmental Health Branch of the Alaska Division of Public Health is maintained for the specific purpose of helping Alaskans to control sanitation in the State. Assistance is given in the form of education, inspection, consultation, and enforcement services.

The authority and responsibility for furnishing sanitation service was centralized in Environmental Health in 1937. This Branch, with the help of local governments, provides service to communities and individuals needing such help.

The present program provides assistance in solving sanitary problems of: water supply, waste disposal, food handling, industrial plants and processes, garbage and refuse collection and disposal, housing, water pollution, plumbing, heating, lighting and ventilating, rodent control, swimming facilities, hotel and rooming house operation, barber and beauty shop operation, and public health nuisances.

Public water supplies are checked frequently by both field and laboratory examinations and similar services are given on individual water supplies upon request from the owner. Laboratory examinations are done by the Branch of Public Health Laboratories of the Alaska Division of Public Health, and interpretations of the results are given by Environmental Health. These services are available, without cost, to anyone wishing such analysis.

Sanitary surveys, consultation, review of plans and recommendations are given communities in improving sewage disposal practices. Assistance is also given to individuals in planning, constructing, and maintaining septic tanks, private sewers, chemical toilets and other means of private premise waste disposal.

The operators of all types of food handling establishments such as fountains, bars, cafes, bakeries, meat markets, grocery stores, confectionery stores, and canneries may receive assistance from Environmental Health in planning and operating their establishments in a sanitary manner. Surveys of these establishments are made to protect the public from the hazards of faulty sanitation.

Routine field and laboratory checks are made for milk retail outlets. The public appears to be willing to pay somewhat more for a product which is sanitary and wholesome.

Field investigations are made concerning municipal garbage and refuse collection and disposal practices. Recommendations are submitted to the appropriate officials on changes or improvements which would provide greater economy or eliminate unsanitary practices.

Service is given to any person, firm, or corporation desiring help in planning, constructing or providing sanitary housing. Specific information on heating, lighting, ventilating, ratproofing, and making a building a healthful place in which to

live is available upon request. Such services are utilized most frequently in establishments such as public buildings, schools, and industrial establishments. Consultation with municipalities usually deals with methods for eliminating substandard housing and providing healthful housing.

Sanitary surveys, the services of trained individuals, control equipment, laboratory services, and educational material for rodent control are available. Periodic rodent infestation, surveys, and rodent control campaigns protect the health and prevent property loss caused by rats.

#### **Seafood Sanitation**

Many special problems, such as shellfish poisoning, confront Alaskans. Every effort is made to aid Alaskan seafood and shellfish processors in producing a product which will be safe and healthful and will in no way endanger the market for the product. An unsafe product not only may make people ill but also may make a bad name for the industry and could even destroy the industry. A sanitary product is a saleable product. A great part of the economic welfare of the State is dependent upon safe food products which create a desire on the part of the consumer for more

Miscellaneous sanitation services, consisting of field investigations of complaints, recommendations on nuisance conditions, and distribution of health educational material and advisory material for local officials and communities, are furnished by the Branch of Environmental Health.

Hundreds of requests are received for help in solving sanitary problems in all parts of the State.

To facilitate the administration of service to people in all parts of the State, sanitation personnel have been stationed in Fairbanks, Anchorage, and Juneau. Requests for service should be directed to the following addresses:

Regional Health Officer, Northern Regional Office, Department of Health & Welfare, 604 Barnette Street, Fairbanks, Alaska 99735.

Regional Health Officer, Southeastern Regional Office, Department of Health & Welfare, 172 South Franklin Street, Juneau, Alaska 99801.

Regional Health Officer, Southcentral Regional Office, Department of Health & Welfare, 327 Eagle Street, Anchorage, Alaska 99501.

Medical Director, Greater Anchorage Area Borough Health Department, 217 E. Street, Anchorage, Alaska 99501.

SANITATION IS pure water, safe waste disposal, pure food, a healthful environment, and a clean community—or just COMMON SENSE.

## **RADIOLOGICAL HEALTH**

Within the Branch of Environmental Health a Radiological Health Section has been established to administer programs dealing with all forms of ionizing radiation.

### **ENVIRONMENTAL MONITORING**

In cooperation with the United States Public Health Service, samples of air particulates, water and various food products are collected routinely to be analyzed for fission products from nuclear tests. A special sampling program has been initiated because of a unique characteristic of the arctic food chain. Cesium-137, a long-lived isotope is absorbed by lichen which is in turn eaten by caribou and reindeer. The Cesium builds up in the muscle of the animals resulting in high body burdens of the isotope in Eskimos who partially or wholly subsist on them. By analyzing for Cesium-137 in animal muscle and determining body burdens in Eskimos, a check can be maintained to insure that these body burdens do not exceed recommended radiation protection guides.

### **EDUCATION**

The education phase of radiological health covers several areas. An attempt is made to keep other Health Department personnel informed of programs dealing with their areas of concern, e.g., water pollution or medical services. Through lectures and answering requests for information the public is kept aware of radiological health activities in the state. Users of radioisotopes and X-ray producing machines are sent information as it is available on new ideas in radiation protection which may concern their work.

### **X-RAY REGISTRATION AND SURVEY**

The largest source of radiation exposure to the general public today is diagnostic dental and medical X-ray. To attempt to assure minimal exposures to the Alaskan population a program of X-ray machine registration and survey has been established. In May, 1963 all known sources of X-ray in Alaska were registered. Following this registration a program of machine survey was begun to insure that proper filtration and collimation, as required in the state administrative codes, is adhered to. During these inspections an attempt is made to demonstrate the methods of reducing patient and operator exposure. In May of 1964 a physical survey of all dental units was made by mail using a dental surpac. Filters and collimators were sent to all units which did not meet state requirements. Due to limited personnel, not all medical units in the state have been surveyed.

Richard L. Mikkelsen



# THE PUBLIC HEALTH NURSE AND THE PRIVATE PHYSICIAN

ARNE BELTZ, PHN

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ANCHORAGE, ALASKA



*Mrs. Beltz\**

Over the years articles and books have been written on the relationship of physician and patient and the communication between the two. Only recently has there been a growing interest and concern over the relationship of the physician and the nurse. In the J.A.M.A., November 1, 1965 issue there is an article on Nurse-Physician communication in the hospital which is very illuminating. An article on Public Health Nurse-Physician communication in Alaska would be also interesting, if it were possible to write such an article. For, as the physician knows well the role he expects of the hospital nurse and the communication that exists between them, at the same time, he knows or accepts little of the role he might expect from the public health nurse and little communication exists. At many meetings and conferences lip service is paid by the physician to the public health nurse and at those times the public health nurse's heart swells with pride. Then as day by day goes by and no referrals are made, the glow is gone and there is a question of whether he meant what he said. It is apparent that the physician knows the role of the public health nurse intellectually but cannot accept it emotion-

ally. The cause of this is unknown, perhaps lying in a lack of trust, perhaps in a feeling that the public health nurse is a threat to his own relationship to the patient.

The solution to the problem may be through focus on the patient, not on the nurse or the physician. It is the patient's needs that both are trying to fill. Therein would lie the building of a relationship, and of communication because there is shared a common goal, the welfare of the patient.

Consideration may be given now to how the public health nurse can be of service to the physician's patient, not as a handmaiden to the physician, but working as a team with him. It is possible to visualize many areas of assistance. Of the greatest value is the fact that the public health nurse visits the home, the focus of most problems. The physician of necessity has long given up home visiting which in many ways was a tremendous loss. However, he can learn of home conditions from the public health nurse and this can partly fill the gap of his knowledge.

List the situations in which physicians find their patients and consider further how public health nursing service might benefit them. The newly diagnosed diabetic, returning to the reality of home, shaky in his knowledge, trembling over his insulin injection, and with a diet clutched in his hand. Is not this patient a candidate for the helpful support of the public health nurse? Or the primipara or multipara frightened over the prospect of a coming life, gaining weight and with rising blood pressure. Can the physician spend the time to sit down, learn the causes of her distress, counsel fully on diet and follow up in the home? Or the CVA incapacitated by paralysis who returns home to develop contractures, hopelessness and dependency; or the colostomy patient returning home, devastated by a desecration to his person and with many new problems facing him. Again consider the gonorrhea patient who received treatment but whose contact is not sought out for treatment? Is it fair that the patient be treated and not the contact and yet who is going

\*Anchorage Times Photograph.

to seek him out? The physician can't do this but the public health nurse can. She already handles this for all military reported contacts. The public health nurse is a master in the tuberculosis case and contact follow-up and most physicians are content to leave this in her hands. Where there are legally outlined duties there is acceptance by the physician.

Consideration should also be given to what the public health nurse is doing now in relation to the patient and physician. It is important to know that the key question asked of any and all patients is "Do you have a physician" and if the answer is negative there is the invariable recommendation, "You should see a physician." More patients are referred to a physician by a public health nurse than any physician dreams of. It is surmised by the public health nurse that the patient often neglects to inform the physician of this, desiring, perhaps, the assumption that he has felt the need himself.

In the J.A.M.A. article of November 1, 1965 mentioned in the first paragraph there is a statement that a study revealed that nursing students from hospital schools of nursing were prone to select nurse-doctor interactions as situations from which they obtained most personal gratification while students of college schools of nursing were prone to obtain gratification from nurse-patient interactions. Since most public health nurses are from college schools of nursing, this may be a significant factor in the relationship and communication between physician and public health nurse. She is invariably patient oriented and she works for the patient. This in the end may prove the rallying point as mentioned above for establishment of a rapport.

If both physician and public health nurse are working for the patient, there could not possibly be any problem of relationship and difficult communication. For as naturally as day follows night would be the physician's concern for his patient in the home and what is happening there and his request to the public health nurse to help out in this area; and as day follows night would be the public health nurse's concern to inform the physician of what is happening to the patient and to request orders and advice in turn.

The communication can exist; the relationship of public health nurse and physician can grow, the article can be written some day. For the public health nurse stands ready at all times to work with the physicians of Alaska for their mutual concern, the patients of Alaska.

## FILM LIBRARY

The Alaska Department of Health and Welfare operates a film library of 779 films which are circulated throughout the State of Alaska. These films are 16mm, sound, color or black and white, and cover the following subjects: accident prevention, alcoholism, cancer, immunization, maternal and child health, mental health, retardation, nutrition, rehabilitation, sanitation, physical fitness, sex education, speech and hearing, tuberculosis, and venereal disease.

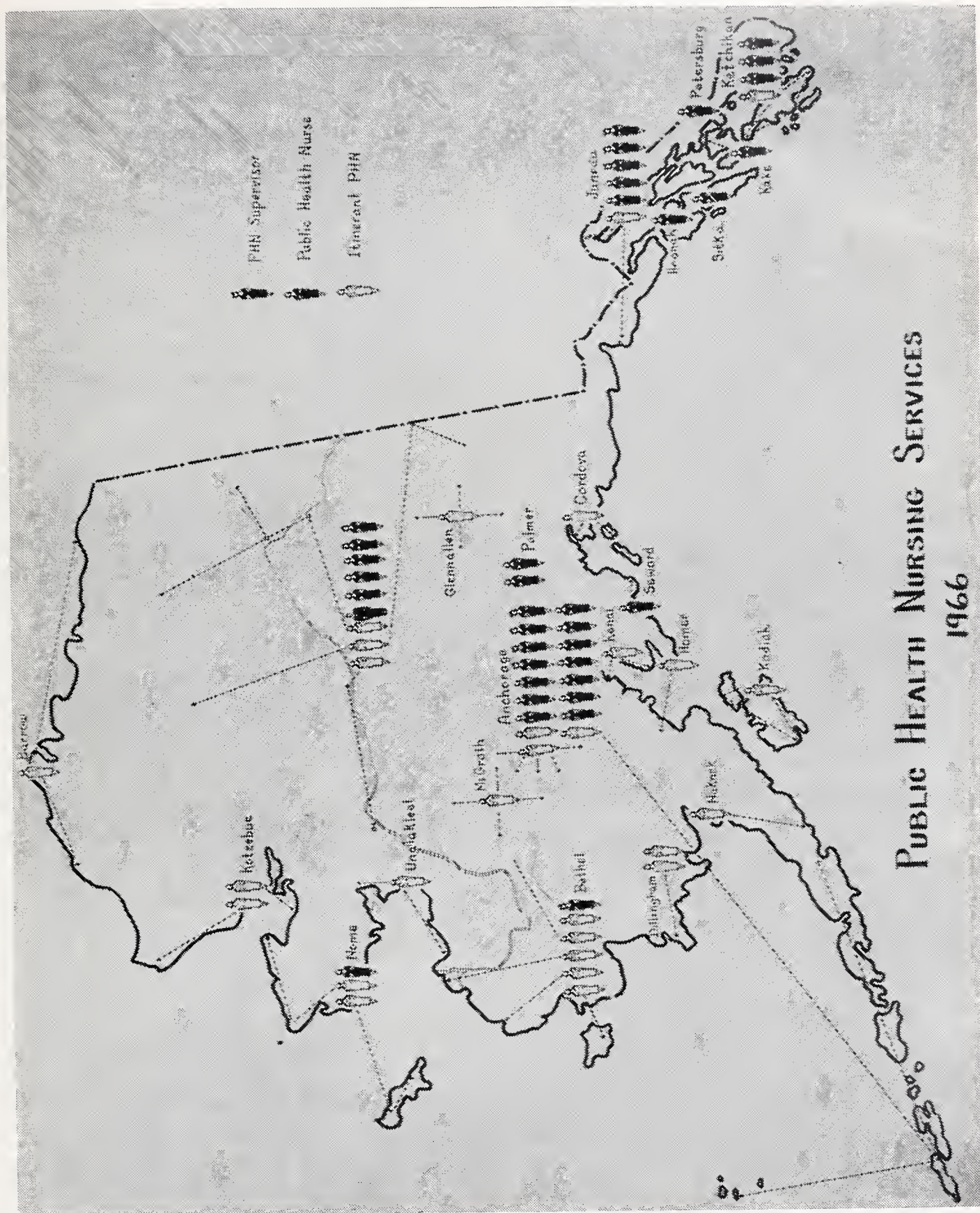
Films are available to any organization or resident of Alaska, and are mailed daily to schools, public health nurses, hospitals, private organizations, colleges, churches, military personnel, physicians, industrial organizations, and TV stations. During the past year over 6,000 films were requested from the film library. There were 5,911 film showings and the total audience reported was 266,261 (not including TV audiences).

Many of the films in the library are used by schools and general audiences. However, of particular interest to physicians are films on prenatal care and childbirth, mouth-to-mouth rescue breathing and external cardiac massage, and disease control.

Catalogues of available film can be obtained at Regional Health Offices in Juneau, Anchorage and Fairbanks or by writing the Alaska Department of Health in Juneau.

Ruth D. Anderson  
Audio-Visual Specialist





Division of Public Health  
Department of Health and Welfare



## PRESIDENT'S PAGE

ROYCE H. MORGAN, M.D.

President, Alaska State Medical Association



*Dr. Morgan*

There's big news for Alaskan doctors.

The Executive Council met on January 22, interviewed and offered Mr. Vernon Walker the position of Executive Secretary. Mr. Walker has accepted our offer and will assume his post February 21, 1966. Vernon Walker is known to many Alaskan doctors. He is Contract Medical Care Officer for Alaska Native Health Service. Forty-nine Doctors and Dentists of our State have a contractual relationship for Alaska Natives and have had contact with Mr. Walker.

He was Clinic Manager for over six years of a thirteen doctor clinic in Oklahoma. Prior to this Mr. Walker operated a printing and publishing business for one and a half years and among other things published the Pottawatomie County Medical Journal. (MY old home county.) He has been Administrator of the McAlester, Oklahoma General Hospital. This was an 85-bed hospital. Prior to this he was Administrator of the Miami Baptist Hospital (60 beds).

He is a Baptist and active in his church. He has two married daughters and eight grandchildren. These are just a few of his many admirable qualifications.

I feel a great sense of accomplishment in hiring Mr. Walker, as the Executive Branch of ASMA was commissioned by the Society to accomplish this task at the state meeting in Fairbanks in 1965.

We have carefully estimated the cost of hiring an Executive Secretary, renting an office for ASMA, and securing secretarial help, as well as a travel budget for our man. This calls for each of us to pay rather stiff dues since we are few. All of us wonder if they will ever be reduced, and perhaps that, too, will be possible.

Luther Paine, D.D.S., President of the Alaska Dental Association, has assured me that their Society is interested in hiring Mr. Walker on a part time basis. It will likely take quite some time to work this out. Therefore, perhaps, considerable relief lies in this avenue.

I hope you will all support Mr. Walker as he undertakes the huge and challenging task of the first Executive Secretary of the Alaska State Medical Association.

Sincerely,  
Your President



*Mr. Vernon Walker*



# EDITORIAL

## A NEW FRONTIER FOR MEDICINE As Viewed By A Two-Headed Janus

As should be obvious from the foregoing pages, this issue of ALASKA MEDICINE is devoted to the description of existing programs of the Division of Public Health of the Alaska State Department of Health and Welfare.

In the past year and a half, during which I have had the unique experience of serving not only as Editor-In-Chief of ALASKA MEDICINE, but also as Southcentral Regional Health Officer for the Division of Public Health, I have developed a strong conviction that more communication must exist between private medicine and public health. For ten years in private practice I was abysmally ignorant of the philosophy, purposes, actual and potential services rendered by the Health Department. Part of this was the result of my own apathy and suspicion of public health as an encroachment on private medicine and part was the failure on the part of the persons in public health to tell their story in terms that the private physician could understand. Had an understanding been achieved earlier, public health could have been treated as an ally, not as a threat, and much more could have been accomplished for the benefit of my patients and also, parenthetically, to the financial and professional benefit of myself as a private physician.

In recent years, several private physicians have, with knowledge of existing grants and matching funds, spearheaded the establishment of programs such as the Child Study Center for evaluation of suspected mental retardation. This pilot program in turn has been instrumental in spearheading much of the development of a promising Special Education Program in the Anchorage area. Many more of the glaring health needs of the Alaskan population could have been met long since by cooperation between the private physician and public health personnel within the framework of existing legislation.

Within the past year the amount and scope of existing federal legislation has increased considerably. Amendments to Title V of the Social Security Act will now provide grants for comprehensive high quality maternal and infant care of high risk, low income mothers and babies and for comprehensive pediatric care of high risk, medically indigent pre-school and school age children.

Titles 18 and 19 of the Social Security Act when implemented can provide standard medical care for individuals over 65, and in addition for all children under 21 who are recipients of public assistance or deemed otherwise unable to pay for medical care. Other legislation allows funding for regional heart, stroke and cancer centers, mental retardation centers and community mental health facilities. Programs under the Office of Economic Opportunity can provide additional health services, including family planning, in poverty stricken areas. All of these programs are possible, but most require state matching funds and careful coordination to avoid confusing and expensive duplication. The states themselves are largely responsible for correlating the services and in a large part for setting the standards of acceptable medical care. These are large orders and to adequately fulfill them requires the aid of the private physicians both in suggesting and advising on administration of programs and in educating the legislators and public officials about existing health needs and methods for meeting them. The personnel of the Division of Public Health are responsible for implementing the decisions of the Legislature; however, as State employees they do not participate in political activity but only advise on legislation. The private physicians and their representatives, on the other hand, can and should be politically active in fostering health awareness among the legislators and in suggesting that the legislators solicit the opinion, experience and advice of the private physicians and state public health officials when such consultation would seem appropriate. Only by a new brand of team work between private medicine and public health can a satisfactory and meaningful application of new legislation be made in Alaska.

The fight of private medicine against "Medicare" is now over and the medical profession is presented with the very positive challenge of preserving and perhaps even strengthening the integrity and quality of private medicine within the increased scope of the new legislation. For years to come there will be a shortage of medical and health personnel available to meet the challenge and provide the increased demands for service.

The job will not be easy!

—Elizabeth A. Tower, M.D.

The Anchorage Medical Society  
and  
The Alaska Chapter of the American Academy of General Practice  
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Saturday, February 26, 1965

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"Exocrine and Endocrine Influences of the  
Pancreas on Gastric Secretion".....10:00 a.m.

"Chronic Pancreatitis:  
Causes and Treatment" ..... 2:30 p.m.

**Isadore Dyer, M.D.**

Professor of Obstetrics and Gynecology,  
Tulane University School of Medicine,  
New Orleans

"Antepartum Care" .....11:20 a.m.

"Management of Emergencies During the  
Third Stage of Labor and in the Im-  
mediate Puerperium" ..... 3:10 p.m.

**Morton Hamburger, M.D.**

Professor of Medicine  
University of Cincinnati School of Medicine

"The New Penicillins" .....10:40 a.m.

"The Management of Acute and Chronic  
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*Official Journal of the Alaska State Medical Association*

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# A SPECTACULAR CLINICAL PROBLEM: PHEOCHROMOCYTOMA

GRACE JANSEN, M.D., WARREN JONES, M.D., THEODORE SHOHL, M.D.

ANCHORAGE, ALASKA

Pheochromocytoma was first described by Fraenkel in 1886, (4) and the first successful operation was carried out by Charles Mayo in 1927, (5) but it is still a fascinating disease. It has been difficult in the past to establish the diagnosis, localize the lesion, and carry patients successfully through the operative period. In recent years, all of these problems have been at least partially solved. The mortality of twenty six per cent in elective cases and fifty per cent in unrecognized cases reported by Apgar in 1951, (1) has been greatly reduced with improvement in diagnosis and management. Some of the outstanding features of this fascinating disease are well illustrated by a recent case.

## CASE REPORT:

Karen G. is a fourteen year old girl, who was first seen on the first of October 1965. She was sent to the office by the school health nurse because of excessive perspiration.

**PRESENT ILLNESS:** She complained of excessive sweating, some dizziness, and occasional nausea which have occurred intermittently for the last four years. These episodes would last, generally, for ten to fifteen minutes at a time, and occurred with and without exertion, sometimes even while she was asleep. The school nurse reported that the patient also had generalized shaking during episodes of excessive perspiration.

**PAST HISTORY:** Past history revealed that the patient had the usual childhood diseases, with no known allergies. Her father, who is forty-nine, has had hypertension for several years, but there are no other serious illnesses in the family. Menstrual function had been regular since age eleven. She had a tonsillectomy and adenoidectomy in March of 1964, with no elevated blood pressure noted at that time; previous to this in April 1963, she had an anesthetic for reduction of fractured left forearm. At this time her blood pressure was noted to be 138/80, although a systolic pressure of 170 was noted in the recovery room.

**PHYSICAL EXAMINATION:** On physical examination, the patient was perspiring profusely over her entire body. Pulse rate was 120 and regular. Blood pressure was 184/132 in the right arm

and 190/138 in the left arm in the supine position. Arteriolar narrowing was noted in the fundi of both eyes. Sinus tachycardia was noted on the heart examination with a Grade II systolic murmur at the apex and along the left sternal border. The lungs were clear and the thyroid was not enlarged. On abdominal examination, no masses or scars were detected but there was a slight fullness to the right of the naval. The uterus was normal sized and posterior, and no adnexal masses were palpable. The deep tendon reflexes were hyperactive and symmetrical, and she had normal adolescent breast development. The skin was warm and moist on all parts of the body. Repeated blood pressure readings on five different days showed a persistent hypertension in the range of 170/130 to 240/150, with a slight downward change in the standing position.

**LABORATORY DATA:** A urinalysis was normal except for a one plus proteinuria, with a specific gravity of 1.031 and a PH of 5.5. The white blood count was 13,300 with normal differential and hemoglobin was 16.4 grams, the hematocrit 48 volumes per cent; BUN was 7 mg. per cent. The urinary vanillyl mandelic acid level was 6.4 mg./24 hrs. on one determination and 7.5 mg./24 hrs. on another, with a normal range being 0.7 to 6.8 mg./24 hrs. The protein bound iodine level was 4.7 micrograms per cent, and a random urine for catecholamine content was 272 micrograms per cent with the normal being less than 18 micrograms per cent. A two hour postprandial blood sugar was 132 mg. per cent. Serology was normal, and the sodium was 145 millequivalents per liter, the potassium 3.75 millequivalents per liter, chloride 97 millequivalents per liter. The 17 ketosteroids urinary readings were 8.8 mg./24 hrs. with a normal of 3 to 15 mg./24 hrs. A 24 hr. urinary catecholamines level was 3,840 mg./24 hrs. with the normal up to 103 mg./24 hrs. The electrocardiogram showed sinus tachycardia with a left ventricular strain pattern. The chest x-ray was normal and the IVP was also normal. A Nephro-Tomogram showed a vague density in the right supra-renal area with obliteration of the normal triangular fat pad in this area, which was suggestive of a tumor in that region.



**DIAGNOSTIC TESTS:** On October 14, 1965, a Regitine Test was performed in the hospital, using 3 mg. of Phentolamine (Regitine) intravenously. At the beginning of this test her blood pressure was 178/122, and dropped after three minutes to 120/60; after twenty minutes it was back to 150/90. The blood pressure reading three hours after this test was 230/140. This produced a drop of 58 mm. systolic pressure and 62 mm. diastolic pressure, which constitutes a positive Regitine Test.

**DIAGNOSIS:** The key procedure is to consider the possibility of pheochromocytoma, as with modern diagnostic clinical and laboratory methods it is possible to obtain excellent confirmatory evidence once the diagnosis is entertained.

The cardinal feature of marked systolic and diastolic hypertension is of course the most striking clinical feature. This may be completely absent in periods between crises or may be present in sustained form over a period of months or years as shown by our patient. The common symptoms of nervousness, palpitation, and increased sweating may lead to a mistaken diagnosis of hyperthyroidism, particularly as enlargement of the thyroid and elevation of the BMR and PBI may be present. The symptoms accompanying the hypertension of headache, substernal pain, weakness and blurring of vision are common. Sweating of profuse degree was the most distressing symptom to our patient. Some patients have few or no symptoms until exposed to stress of pregnancy or operation and it is especially in these patients where diagnosis remains difficult and mortality high. The occurrence of hypertension in adolescent children demands a consideration of pheochromocytoma. The hypermetabolic state may suggest a diagnosis of diabetes and it is important to note that patients with pheochromocytoma may show intermittent glycosuria.

**CLINICAL TESTS:** The use of phentolamine has become a standard screening test and when carefully performed and strongly positive is very important in establishing the diagnosis. It is important to note that a false positive Regitine test is not uncommon, however, (blood pressure drop of 50 mm systolic and 25 mgm diastolic from resting basal hypertensive levels) and additional evidence should be obtained before the diagnosis is confirmed.

The use of the histamine provocative test is widely described but has been to a great degree superseded by other tests. It is potentially dangerous and false positives again are common.

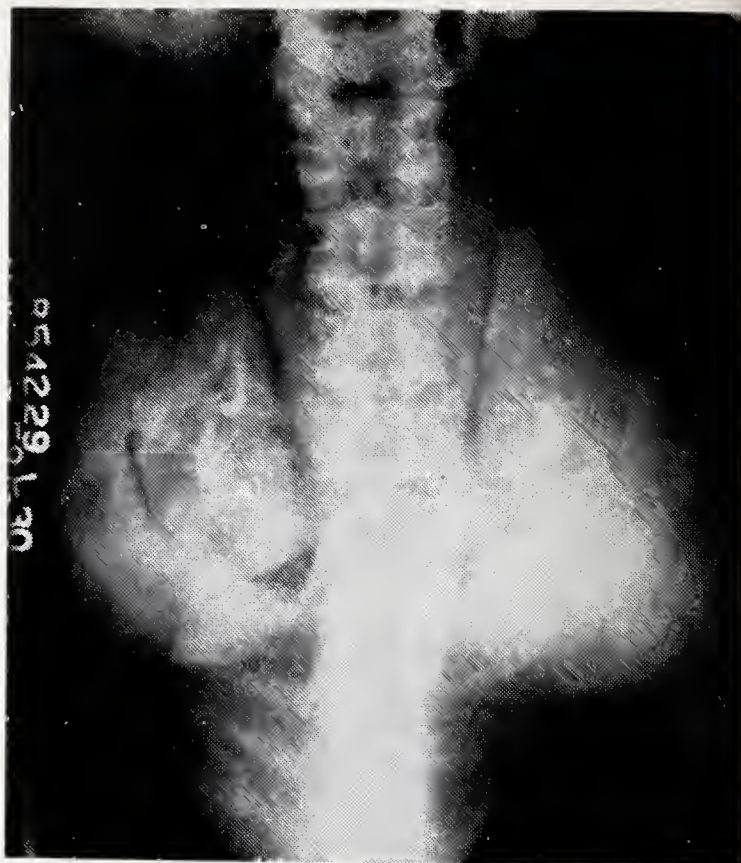


Figure 1

The quantitative measurement of epinephrine and norepinephrine and their metabolic products in plasma and urine has become the most accurate method of establishing the diagnosis. This method, developed by Von Euler and others (8) can now be reliably performed in specialized laboratories. These values were markedly elevated in our patient and provided solid confirmation of the diagnosis.

**ACCURATE LOCALIZATION OF THE TUMOR** is highly desirable once the diagnosis has been established. While approximately ninety per cent of the tumors occur in the adrenal area, six per cent of these are bilateral and an additional ten per cent may be found along the aorta, in the organ of Zuckerkandl, or even in the chest or scrotum. The use of gas as a contrast medium in the retroperitoneal tissues for x-ray localization has had considerable trial. Direct peri-renal insufflation of air or oxygen has proved hazardous because of gas embolus. Presacral carbon dioxide is much safer and even with the rapid absorption of carbon dioxide will give films of diagnostic quality. There is little diffusion across the mid-line so that bilateral presacral injection is preferred. An example of such a study performed in a previous patient is illustrated (figure 1). It was diagnostic of a tumor in the left adrenal fossa. This technique should be combined with pyelog-



raphy and body section x-ray technique for best results. Additional diagnostic aids which may be helpful are selective aortography and the inferior venacavagram.

While these studies are acceptably safe and may yield valuable information, they all involve major manipulation of patients subject to metabolic crises. They should all be done with adequate facilities for control of hypertension; phentolamine and supportive measures should be readily available.

In our patient body section films with concomitant pyelograms indicated the probability of a right sided adrenal location and more elaborate studies were not felt necessary.

**SURGICAL CONSIDERATIONS:** The adrenals may be approached from the prone position, through a lateral extraperitoneal approach, or trans-abdominally. The posterior approach may be of value in obese patients but requires separate incisions for examination of both glands and has the additional disadvantage that the main adrenal vein which is anterior in position can not be controlled until after considerable manipulation of the gland. The flank approach denies abdominal exploration. The transabdominal approach through an upper transverse incision gives adequate exposure in most patients and is the one we prefer. It allows exploration along the entire chromaffin chain and both adrenal fossae. In ad-

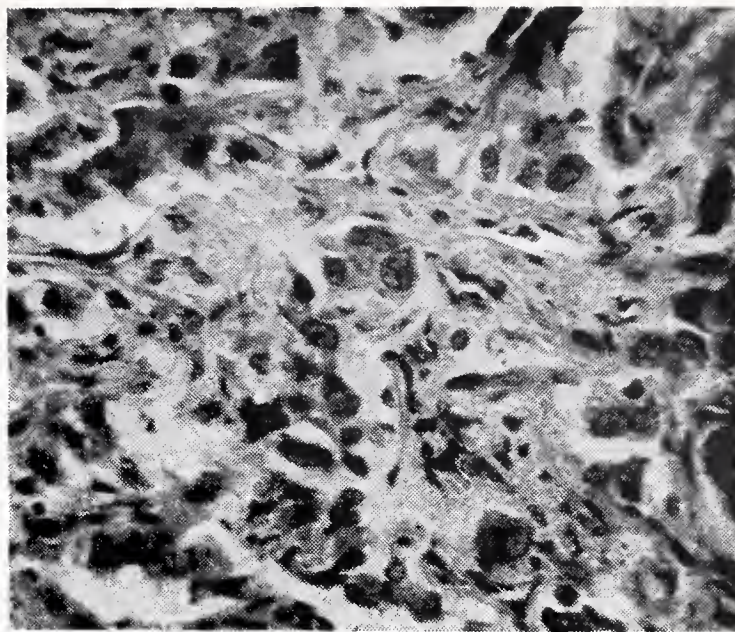


Figure 3

dition evidence of malignancy which occurs in ten per cent of these tumors can best be evaluated with this approach. This approach has been well discussed by Brady, (2) and was used in our patient with satisfaction. The surgeon's problems at operation are to locate the tumor, rule out multiple tumors or ectopic location and assess possibility of malignancy from the gross findings, and early ligation of the adrenal vein or veins with minimal manipulation of the tumor.

The microscopic picture of these tumors is one of marked cellularity, pleomorphism and frequent mitotic figures making histologic interpretation of malignancy difficult as illustrated in low and high power views of this patient's tumor. (Figures 2 and 3).

Mobilization of the tumor prior to vein ligation causes massive release of pressor substances as was seen in our patient. Our patient was supported with small amounts of neosynephrine for six hours. She also received two transfusions post operatively to fill the expanded vascular system following release from the pressor effects of the tumor. After removal of the tumor, drainage of the wound is desirable to avoid retro-peritoneal hematoma formation.

#### ANESTHESIA MANAGEMENT PHEOCHROMOCYTOMA

In recent years several pre-operatively unrecognized cases of Pheochromocytoma and their bizarre behavior under anesthesia such as: hypertensive crises, cardiac arrhythmias, shock and even death have led to an increased interest in the **proper anesthesia management** of recognized cases.

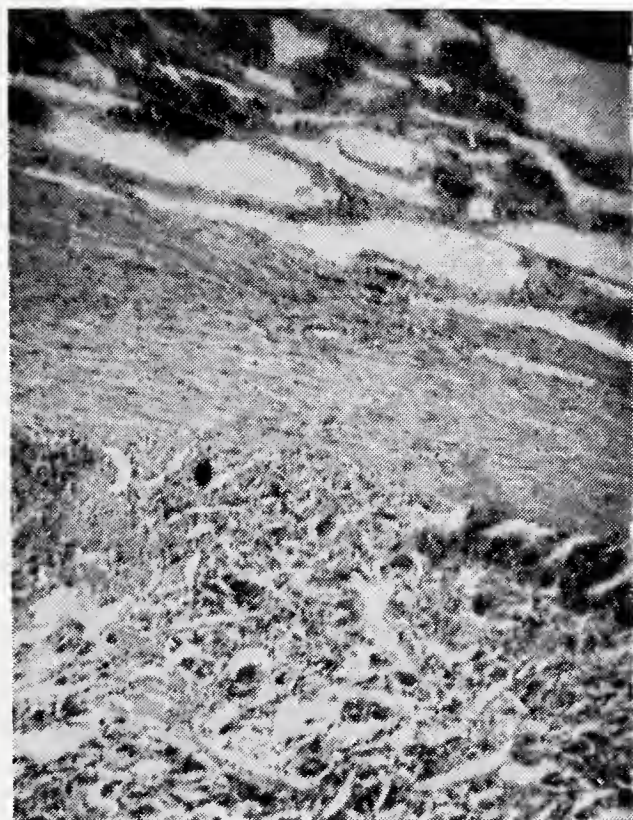


Figure 2



Two points should be considered in the pre-operative preparation of patients suffering from Pheochromocytoma:

1—a blood volume and red cell volume determination should be done.

2—pre-treatment with adrenolytic substance such as phentolamine may be advisable.

Although there has been little argument about the first point, opinions conflict about the second. In cases pre-treated with adrenolytic substance, tolerance to such agents may develop when the patient comes to surgery; also, increased difficulty can be expected in restoring normal arterial pressure after tumor removal, Price (6) after studying the management in twenty six cases of Pheochromocytoma, felt no need for pre-treatment, since in his opinion the hypotension occurring after tumor removal is far more taxing to the anesthesiologist than the hypertensive episodes encountered during tumor manipulation prior to removal. In our case, in retrospect, pre-treatment with phentolamine might have been advisable.

Phenothiazines should be avoided in the pre-anesthesia medication. Adequate sedation can be accomplished with a barbiturate the evening prior to surgery and an opiate-belladonna combination prior to induction of anesthesia. Corticoids should be withheld unless a need for them is clearly established, such as; continued hypotension after tumor removal despite liberal fluid and blood replacement.

Opinions diverge as to what anesthetic agent to use for the procedure. Agents known to sensitize the myocardium to epinephrine and norepinephrine should be avoided. Succinyl choline is the relaxant of choice, since the ganglionic blocking and histamine releasing effect of curare and the vagal blocking effect of gallamine are undesirable. In our patient a pentothal-meperidine-nitrous oxide-succinyl choline combination was used.

Difficulties are encountered at three points during anesthesia: 1—at the induction, 2—during manipulation of the tumor and 3—after removal of the tumor. At induction hypoxia and under-ventilation should be avoided since both will stimulate the tumor to catecholamine secretion. Price (7) has stressed the increased danger of cardiac arrhythmias with catecholamine stimulation when the pCO<sub>2</sub> is elevated. During manipulation of the tumor both hypertension and hypotension can occur as a result of excessive catecholamine secretion, the latter due to severe arrhythmia with ensuing fall in cardiac output. Both hypertension and hypotension require the same

treatment i.e. adrenolytic substance. In our case sinus tachycardia and hypertension above 200mm Hg. systolic pressure were treated with repeated intravenous doses of phentolamine.

During the latter part of the tumor excision blood transfusion should more than replace the loss. A fall in blood pressure, due to catecholamine withdrawal upon completed tumor excision, will be minimized if adequate blood replacement is carried out and the proper pressure agents used as described by Burn and Rand (3). Several agents can be used to maintain a reasonable blood pressure, such as norepinephrine (eight milligrams per liter of intravenous fluid). Angiotensin II was tried in our present case in the assumption that it will provide better peripheral flow than norepinephrine. Because of poor patient response, it was replaced with phenylephrine (ten milligrams per five hundred cubic centimeters infusion fluid) with good result.

**SUMMARY:** The recent successful diagnosis and treatment of a classical patient with a pheochromocytoma have provided us with the opportunity to discuss the various problems and techniques involved in the management of this fascinating condition. Once the diagnosis is made with certainty, the disease is a satisfying one to treat, as permanent cure can be anticipated in most of these patients with low mortality under careful management. The main features in diagnosis, surgical management, and anesthesia management of this condition are discussed.

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# RENO-VASCULAR HYPERTENSION

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ANCHORAGE, ALASKA

In a previous article of ALASKA MEDICINE, the four surgically correctible causes of hypertension were enumerated. These causes included Cushing's syndrome, pheochromocytoma, aldosteronism and the subject of the present paper, renal artery obstruction. The purpose of this paper is to report the surgical correction of hypertension due to renal artery obstruction in Alaska.

## CASE REPORT:

F. S. is a 53 year old white male who entered the United States of America in 1950. His health prior to immigration had been unremarkable. No familial history of hypertension or renal disease

was known. His examination at port of entry was unremarkable, and specifically his blood pressure was normal. In July 1964, he was first informed of an increase in his blood pressure. Several months later he noted severe headaches in the morning. Later he noted mental confusion and a throbbing sensation in his head. Anti-hypertension therapy was begun in July 1964. This consisted of Diuril and a low salt diet. In April 1965, because of a marked increase in severity of headaches, mental confusion, shortness of breath, a blood pressure of 240/120, and Keith Wagner I retinopathy despite therapy, further work-up of

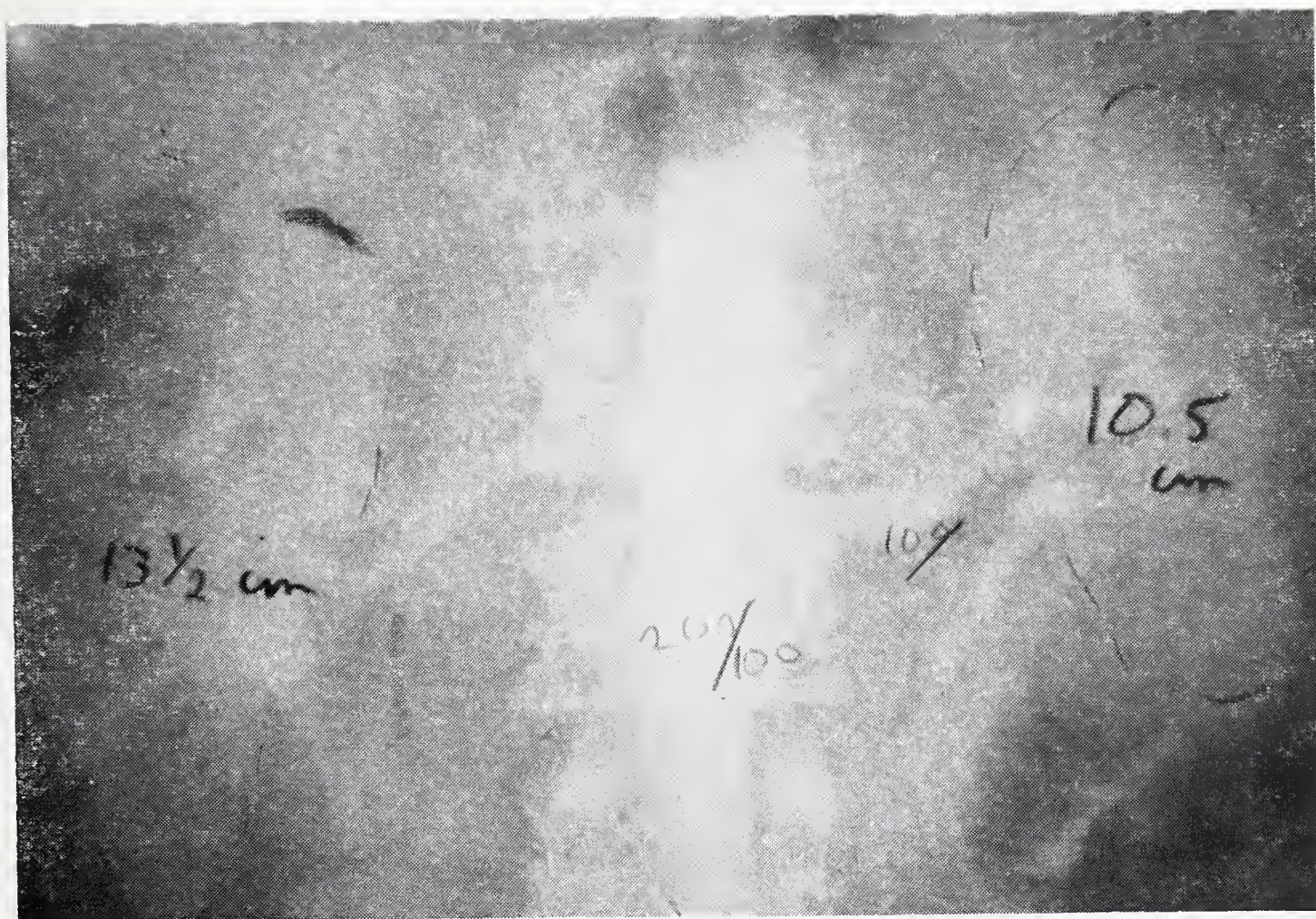


Figure 1. Retrograde femoral artery catheterization and renal arteriograms demonstrate 13.5 cms. long right kidney and 10.5 cms. long left kidney. Note also greater density of right kidney compared to left.



the hypertension was undertaken. An abdominal aortic bruit was not audible. A rapid intravenous pyelogram was performed. The three criteria of a positive screening test for hypertension were present — namely a late filling of a small kidney with increased concentration late phase. The right kidney was 13 cms. long, and the left 10.5 cms. long. Serum potassium was 3.0 mEq/L., catecholamine level was 2, both within the normal range. Renal arteriograms demonstrated a filling defect at the left renal artery orifice, and post stenotic dilation, Figure 1. This study confirmed the diagnosis of renal artery stenosis.

At operation, stenosis of the left renal artery at its origin was present. A pulse was barely palpable in the middle left renal artery. Pressure in the abdominal aorta was 200 mms. of mercury, while pressure in the left renal artery, middle segment, was 100 mms. of mercury, Figure 2. This was a 100 mms. of mercury difference in pressure. A knitted dacron graft was inserted into the side of the abdominal aorta and then into the side of the left renal artery, just at the post stenotic dila-

tion. The patient was anticoagulated with intravenous heparin while the anastomoses were constructed. After the construction of the bypass graft, a systolic pulsation comparable to the abdominal aorta was palpable in the middle and distal left renal artery.

His postoperative blood pressure increased transiently over the postoperative 2 to 4 hour period, then became progressively normal. Since postoperative day 1, his blood pressure has remained well within the 130-140/80-90 range. He enjoyed a smooth postoperative course. He resumed normal alimentation on postoperative day 3, ambulated and his wound healed per primum. He was ready to return to work in four weeks and a half after surgery. Six months after surgery blood pressure was 152 over 90.

## DISCUSSION

The fact that obstruction of blood flow to a kidney will alter blood pressure was demonstrated many years ago by Goldblatt.<sup>1</sup> He produced ex-

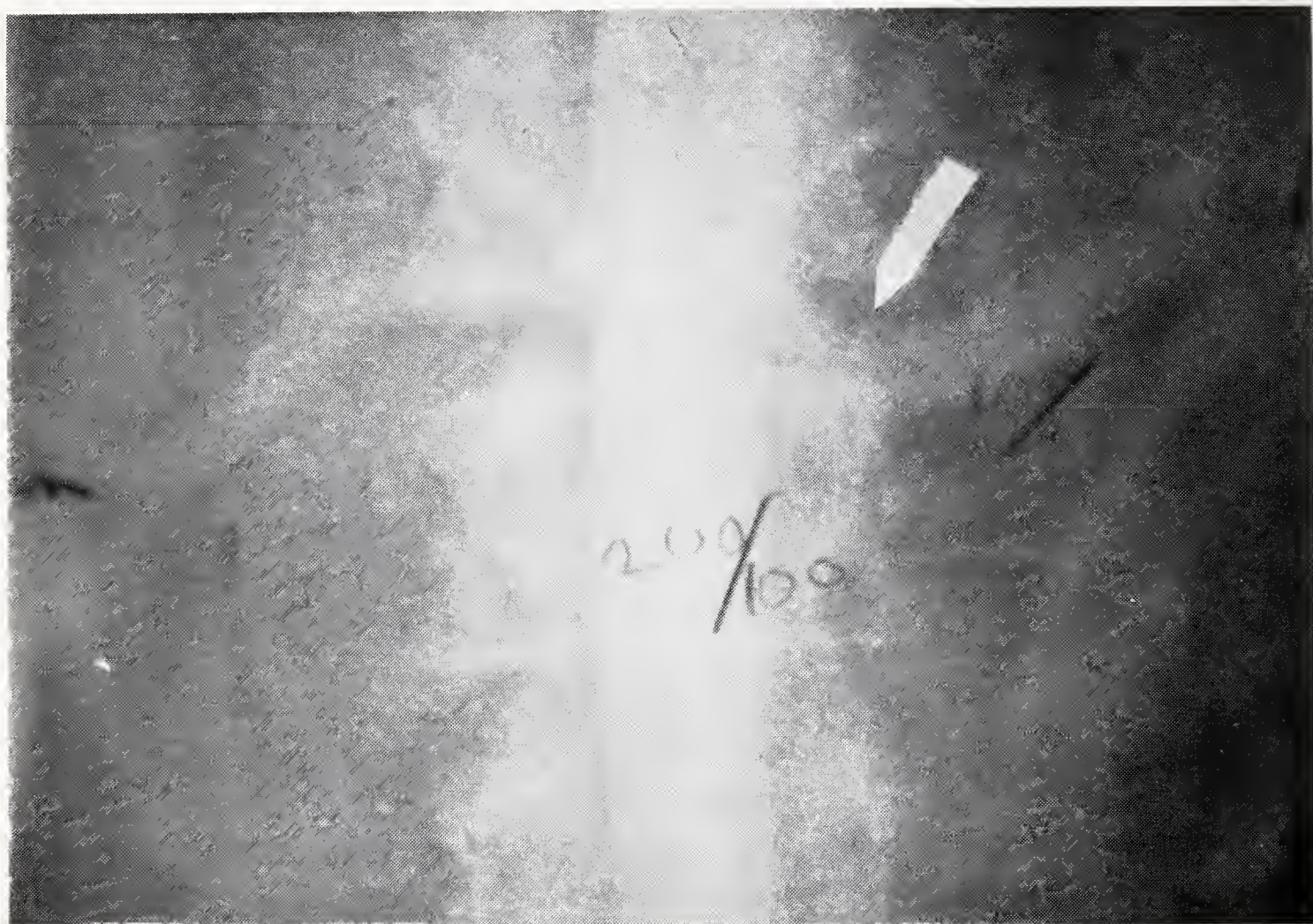


Figure 2. Close-up view of renal arteriogram. Note absence of radiopaque media at proximal left renal artery (arrow), and post stenotic dilatation.



perimental renal artery stenosis and noted a significant increase in blood pressure. More recently in 1961, Schlegel and Okamoto<sup>2</sup> and workers have demonstrated a critical relationship between the renal artery blood flow and the renal parenchymal mass. Whether the juxtaglomerular apparatus is the receptor for this relationship or whether its function is to interpret pulse characteristics has yet to be defined. That improvement of impaired blood flow to the renal parenchyma will restore blood pressure to normal has been well documented. Wylie<sup>3</sup> has demonstrated that in addition to the usual form of arteriosclerosis involving the proximal renal artery, obstruction to blood flow may be on the basis of a fibromuscular hypertrophy involving the middle portion of the renal artery. This condition grossly appears as a series of diaphragm-like valves in the middle one-third of the renal artery. Aneurysms of the renal artery or renal parenchymal infarcts have been known to result in malignant hypertension.

A method which has been helpful on screening patients for possible renal artery lesions is the renal scan. This allows recording of the appearance of radioactive material in each kidney, the renal concentrating and excretory functions. The differential renal function test (Howard) allows simultaneous measurements of each kidney function by means of ureteral catheters for separate collection of urine. More recently it has been well documented that patients with a normal intravenous pyelogram without bruits should be pursued further if they have severe malignant hypertension. The reason for this is that they frequently will have significant obstructive lesions in their renal arteries which when corrected restores the blood pressure to normal.

Indications for renal arteriography include; (1) hypertensive patients under the age of 40; (2) when onset of high blood pressure is sudden; (3) when the radio-graphic evidence of renal disparity is present; (4) and when an abdominal bruit is heard.

Surgical reconstruction has two main approaches. Endarterectomy is the removal of the thickened intima. The alternate method allows improvement of flow by insertion of a graft to bypass the obstruction. The latter method was used in this case.

The transient increase of blood pressure following surgery (postoperative hour 2-4) probably reflects increased release of the vasoconstrictor substance (renin) during the renal artery occlusion phase while the anastomoses were being constructed.

Summary: This reports a patient with recent hypertension due to obstruction of the left renal artery orifice which was surgically corrected by dacron bypass.

Appreciation is expressed to Drs. Rodman Wilson, Alistair Chalmers, Frederick Hillman, and Chi-Mei Chao for their assistance and consultation.

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# THE AIR OF ANCHORAGE — TODAY AND TOMORROW

JOHN L. S. HICKEY

Anchorage has grown rapidly, and is expected to continue to grow rapidly. The city now bases its long range plans on an expected population of between one-quarter and one-half million people by 1980.

The possibility of serious air pollution in Anchorage's future cannot be ignored. Warning signs are already apparent in the thick winter fogs of the low-lying Ship Creek commercial areas and in the haze which is frequently and plainly visible to those approaching the city by air. These are clues to a condition which will only get worse unless plans are made for avoiding increasing air pollution in the area.

As an aid to planning it is well to review what is now known about air pollution in general and about the condition of Anchorage's air in particular, and to discuss this in relation to the city's expected growth.

For the last twelve years, air samples have been collected in Anchorage by the Arctic Health Research Center, as a part of the National Air Sampling Network program of the Public Health Service. The data from these samples and from similar samples taken in other cities provide a wealth of information useful in examining Anchorage's air pollution potential.

The purpose of this paper is twofold; first, to present the air sampling results obtained in Anchorage since 1953, and to discuss the significance of these data, particularly in relation to possible corrective measures; second, to speculate on the air pollution potential of Anchorage, and how present knowledge obtained in other areas might be applied for prevention of future pollution in this area.

The Arctic Health Research Center began air sampling at Anchorage shortly after the volcanic eruption of Mount Spurr, in July 1953, caused the deposition of a significant amount of volcanic ash in the area. A sampling station was established in the city atop the old fire house at 4th

and F Streets. Twenty-four-hour samples were collected bi-weekly and analyzed for suspended particulate matter, radioactivity, benzene soluble organic matter, and occasionally for sulfates, nitrates, and other pollutants. All samples were analyzed at the Public Health Service's Robert A. Taft Sanitary Engineering Center at Cincinnati, Ohio, and these analyses form the basis of this report (1-4).

In 1954, the sampling station was moved to its present location on the roof of the Arctic Health Research Center building at 6th and K Streets. An additional sampling station was operated in a remote area on Point Woronzof (4 miles west of Anchorage) from 1955 through 1963, using the same sampling procedure. This was done in an effort to determine what portion of the material in the air was derived from natural factors and what was generated by man-made devices and activities.

## OUR AIR TODAY — THE RECORD

The 12-year air sampling record has several facets, and each of these will be discussed separately. First, there is the total suspended particulate content of the air, which includes all material caught on the filter in the sampling apparatus. In Anchorage, 90-95% of the particulate matter is inorganic, and can be loosely classified as "dust." The dust in Anchorage is generally from two sources; volcanic ash and loess, or glacial rock flour (5, 6). Figure 1 shows the total particulate concentration (or "dust loading") for Anchorage City and Point Woronzof since 1953. Some values for total particulates obtained at Los Angeles during this period are included to compare Anchorage with a city which has long experienced air pollution problems. Figure I also indicates specific events which may have had important effects on the dust loading as well as the seasonal variations.

Several interesting conclusions can be derived from Figure 1. High particulate loadings were recorded for several months after the initial eruption of Mount Spurr. Figure 1 shows the annual average particulate loading during the post-erup-

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tion years and reflects a fairly rapid reduction in ash and fallout. The maximum particulate concentration during the 12 years for Anchorage was 3,113 micrograms per cubic meter, which occurred in April 1954, and is too high to be depicted in Figure 1. This and other high counts are no doubt responsible for the statement published in 1954 that Anchorage had the "heaviest continuous concentration of suspended particulate matter that has been encountered in any municipal area of North America" (5). That 1954 record still stands; the closest approaches to it occurred in Fort Worth in 1954 with 2,940 micrograms per cubic meter and Albuquerque in 1959 with 1,710 micrograms per cubic meter.

The effect of the eruption on Anchorage's atmospheric dust had disappeared by 1956, as indicated by the uniformly low dust counts at Point Woronzof since then (Figure 1), which would have reflected any continuing ash fallout. Using the Point Woronzof station as a baseline of particulate loading due to natural forces, it is apparent that about 80% of the particulate matter in the Anchorage city air is a direct result of man's activities. These include construction, vehicle traffic, burning, and all the diverse activities found in a growing city. One might conclude that a high dust loading is the price of progress and growth, but such is not the case. The evidence clearly indicates that corrective measures would help the dust situation significantly. For example, the dust load in winter is only forty percent that of summer. Also there was a significant decrease in the summer dust loading when paving of the streets near the sampling station was completed. These observations indicate that the amount of dust in our air can be controlled, both by summer dust-suppressing measures and street paving.

Before the 1964 earthquake, Anchorage was well on its way to reducing its dust loading to a respectable level. The destructive effects of the earthquake on paving, and the large amount of post-quake earth-moving and construction are clearly reflected in the high 1964 summer dust loadings shown in Figure 1. However, the loadings during the winter of 1964-65, when snow covered the ground, remained at the same low level as in previous winters, indicating that the dust loading is still controllable.

How does Anchorage compare with other cities in the United States? Table 1 shows the comparative loading in Los Angeles as well as a more representative comparison with the average total

particulate loading obtained in five western and mountain cities and five east-coast industrial cities which are comparable to Anchorage in size. These data are for 1957-61 (2), and represent the latest five-year compilation published to date.

From these data it can be seen that although the amount of particulate matter in the Anchorage air is presently lower than it was several years ago, it is still significantly high in comparison with contemporary measurements in similar cities. The particulate loading in Anchorage during the 1957-1961 period was typical of cities with population in the range of one-half million (2). By contrast, there were only six sampling stations in the country with a lower particulate loading than Point Woronzof. All six were non-urban and two of them were in national parks.

The purpose of presenting these data is not so much to show that Anchorage has not yet solved its dust problem as to illustrate that it can be done, as other cities have done it, and that there is nothing in the natural environment to prevent it.

## ORGANIC PARTICULATES

Another important constituent of the air is the organic particulate material, one measure of which is the fraction of the total particulate which is soluble in benzene. The organic particulate loading is probably a more significant indication of serious pollution potential than the total particulate loading. Major sources of organic matter in urban air are incomplete combustion products from heating and incineration, industrial activities and automobile exhausts. Among organic particulates are substances that may cause irritation of biological tissues. Compounds which produce cancer in experimental animals have been isolated from atmospheric organic matter (2).

Table 1 shows that the organic particulate loading in Anchorage is not grossly different from the ten comparable cities, and is far lower than the count for Los Angeles. Point Woronzof is included as a baseline to indicate the amount of organic particulate that might be expected from natural sources.

Figure 2 compares seasonal variation in Anchorage counts with those of the same ten cities, plus Point Woronzof and Los Angeles. Note that this figure is only one-tenth the scale of Figure 1.

As expected, Point Woronzof showed very slight seasonal variation, being remote from the effects of changing seasonal activities of the City. In Anchorage City, the highest organic load occurred in winter and the lowest in summer, also as might be expected. However, the seasonal difference was slight, not only in Anchorage, but in the ten comparable cities. This indicates that the bulk of the organic load may be due to year-round activities (industry, power generation, automobiles, incineration) rather than to heating. Such an observation leads to the hypothesis that home and building heating may contribute a relatively minor amount of organic pollution load.

Weisburd (7) has reviewed the nationwide air sampling records (2) and has concluded that the best single indicator of particulate pollution is probably the ratio of organic to total suspended material. A high organic-to-total particulate ratio, according to Weisburd, would indicate a pollution condition of greater concern than a high total particulate count alone. On the basis of his study, he has proposed "problem threshold criteria" for judging the seriousness of a pollution condition, the hypothesis being that values higher than the threshold values would indicate an actual or incipient pollution problem.

Table 2 compares the figures for Anchorage with Weisburd's criteria. Note that the figures for Anchorage are for 1961-63, by which time the City had achieved relatively stable total and organic particulate loadings. Some of these data are not yet published and were drawn from the basic sampling records (4). Table 2 shows that the air of Anchorage approaches the problem threshold in the ratio of organic-to-total-particulates and in sulfate content (which is a 1958 figure).

This, then, is the twelve-year air sampling record of Anchorage. The question now becomes, how can these facts be used to establish the pollution potential of Anchorage and avoid serious future air pollution problems?

## OUR AIR TOMORROW—THE QUESTION

From the figures in Table 2, Anchorage does not appear to have an air pollution problem now; however, there are several reasons why this situation may not hold for the future. First, the present sampling station is in a relatively clean non-commercial part of the city and is probably not representative of the low-lying commercial and industrial area, where symptoms of pollution

(haze and heavy fog) occasionally appear. Second, Anchorage has not yet become greatly industrialized, and industrial activity is a major source of air pollution. With the large expected population increase by 1980, an increase in industrial activity is assured. Third, since Anchorage is still growing rapidly, other sources of air pollution, such as vehicle exhaust fumes and fuel burning for heat and power, will probably increase at a greater rate than population growth. It would therefore be prudent to view the data in Table 2 as indicative of an incipient air pollution problem which has not yet manifested itself, and to develop preventive measures.

What can be done? Probably the first step should be to examine the most significant pollution sources, which include:

1. Vehicle exhaust fumes
2. Combustion products from heating and power generation
3. Open burning such as incinerators and dumps
4. Construction and vehicle traffic dust
5. Industrial activities

These sources of pollution are discussed below as they apply to Anchorage.

**Vehicle Exhaust Fumes**—In the Anchorage area, this source consists mainly of exhaust from gasoline and diesel motor vehicles. Motor vehicle exhausts, both gasoline and diesel, emit from 4 to 7% of the original weight of the fuel to the air as combustion products (7), including carbon monoxide, hydrocarbons, nitrogen oxides, sulfur oxides, water vapor and particulate matter (9-10), which are of serious concern when excessive. Areas struggling with this problem seem to be concentrating their efforts on obtaining built-in pollution control devices on vehicles. California has "found that the emission of pollutants from motor vehicles is a major contribution to air pollution in many parts of California" and has already enacted legislation requiring pollution control devices on vehicles (8).

Pollution from vehicle exhausts may become a problem in Anchorage sooner than it might in a city of comparable size in a warmer climate because of the widespread practice of leaving engines idling during long periods in the winter.

**Heating and Power Generating Activities**—Homes and buildings in Anchorage are predominantly heated by fuel oil and natural gas, with a



small percentage using coal, wood, and other means (13). Heating systems discharge varying amounts of pollutants into the air and are a contributory factor to a pollution problem. Table 3 shows the amount of various materials discharged to the air by various heating systems, on a comparative basis. The oxides of sulfur and the hydrocarbons are usually considered to be the chief offenders from the standpoint of impurities. In areas where ice fog occurs, however, the amounts of particulates and water vapor become highly important. Ice fog is discussed further on in this paper.

Table 3 shows that use of electricity and gas in domestic and commercial heating systems causes much less air pollution than use of oil or coal. In fact, use of electricity for heating offers complete elimination of air pollution within the community from this source, as it transfers the pollution from the community to the site of the generator plant, which would be remotely located. At the plant, the degree of pollution would depend on the fuel used; Table 3 also shows the comparative pollution emitted by large plants. Here again, gas contributes the least pollution to the air of the three fuels compared. Use of water power or atomic energy as a primary fuel would result in even less particulate and organic ice pollution.

The data in Table 3 suggest several possibilities which might be considered in long range planning to avoid air pollution problems. Electric power rates are already competitive for many purposes. If they can be made competitive to other fuels for space heating, it is reasonable to visualize widespread use of electric heat in the populated areas, with relocation of generating plants to remote sites where the pollutants discharged to the air would not be a problem. The location of generating plants at "mine-mouth" for economic reasons may in effect be contributing to the solution of city air pollution problems as well. Where local heat or power generation is essential, gas might be used or stack-gas cleaning devices, which are already available, might be required on coal-fired plants. Consideration of prevailing winds is necessary in locating power plants, whether at remote or local sites.

**Open Burning**—All manner of open burning is carried on in the Anchorage area. Some is in connection with land clearing and construction; garbage and rubbish are burned in several cen-

tral locations, and many private residents in outlying districts where garbage service is optional or not available burn their own household refuse. Table 4 estimates the pollutants discharged to the air by this source, per ton of refuse burned. No attempt is made to estimate the total air pollution from this source, other than to point out that it is a contributing source in the Anchorage area. Control of open burning could do much to eliminate this source. Indeed, open burning appears so amenable to control, at least among the large contributors, that it would seem desirable to begin control as a preventive measure, before a cure is necessary.

**Construction and Vehicle Traffic Dust**—In a growing community large scale construction and unpaved streets are inevitable to a certain extent. As previously stated, a large part of Anchorage's present dust problem seems attributable to these activities. There are several means of controlling dust from these sources. Unpaved streets can be sprinkled or oiled during the dustiest periods of the year; paved streets can be washed more frequently. Traffic to and from construction sites can be prohibited from tracking and spilling excessive amounts of dirt on the roads. Here again, these and similar measures should be considered in any long-range community air pollution prevention program.

**Industrial Activities**—Industrial sources of air pollution are not yet a problem in Anchorage, as compared to the "industrial cities" in continental United States. Control measures are dependent to a large extent on the specific industry involved. However, pollution control measures are available for many types of industrial processes, and community planning should include meteorological studies to determine the land area least likely to contribute to pollution in the urban area.

**Ice Fog**—According to various authorities, ice fog begins to form at from  $-20^{\circ}\text{F}$  to  $-28^{\circ}\text{F}$ . Using the figure of  $-22^{\circ}\text{F}$  (15), and Anchorage weather data, it can be seen that Anchorage has from zero to ten days per winter when ice fog can form. This may not provide a true picture, however, for the weather data recorded at the airport are seldom representative of conditions in downtown Anchorage. Regardless of the degree to which Anchorage experiences ice fog, it is clear that that its formation requires not only a low tempera-

ture but water vapor in the air and particulate nuclei (15, 16). In his study of the Fairbanks area, Kumai (16) reported that 80 to 90% of the ice fog crystals had combustion by-products as nuclei. The three fuels compared (See Table 3) all give off both particulates and water vapor. If, in the future, ice fog becomes a general problem in Anchorage, the anti-pollution measures mentioned in the section on heating and power generation would also serve to reduce this problem.

Vehicle exhausts also contribute to ice fog, and would remain a source of vapor and nuclei for its formation.

CONCLUSION

At present, air pollution is not a serious problem in the Anchorage area. However, if estimates of its future growth are even remotely realistic, Anchorage finds itself now at a crossroads. There seems only one prudent way to view the air pollution potential in Anchorage; the population may triple in the next fifteen years—the amount of air will remain the same.

ACKNOWLEDGEMENT

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Table 1  
Particulate Matter In the Air  
Anchorage vs. Comparable Cities  
1957 — 1961

		Average Particulate Matter In Air Micrograms Per Cubic Meter	
		Total	Organic Matter
Anchorage (1960 Pop. 44,625) .....	107		6.3
Five Western and Mountain Cities Avg. 1960 Pop. 38,341) a/ .....	84		5.2
Five East Coast Industrial Cities (Avg. 1960 Pop. 84,778) b/ .....	79		7.4
Los Angeles City (1960 Pop. 6,038,771) .....	185		23.4
Pt. Woronzof, Alaska (Non-urban area) .....	19		1.6
a/ Boise, Idaho; Helena, Montana; Bismarck, N.D.; Sioux Falls, S.D.; Cheyenne, Wyoming.			
b/ Quincy, Mass.; Manchester, N. H.; E. Orange, N. J.; Schenectady, N. Y.; Hampton, Va.			



Table 2

## Particulate Matter in the Air of Anchorage

	Suspended Particulate Matter in Micrograms per Cubic Meter			
	Problem Threshold Criteria*		Anchorage 1961 — 1963	
	Geo- metric Mean	10% of Readings Above	Geo- metric Mean	10% of Readings Above
Total Particulate.....	150	250	58	145
Benzene Soluble Organic Particulates .....	10	20	3.7	8.8
Ratio Organics/Total.. (%).....	6%	9%	6.4%	6.1%
Sulfates .....	7	20	5.7	8.7
Nitrates .....	1.5	3.5	0.5	0.9

\*Weisburd, M. I., Physician's Guide to Air Pollution,  
JAMA, 186:6, Nov. 9, 1963.

Table 4

Pollutants Discharged to Air  
From Open Burning of Refuse  
(Pounds Per Ton of Refuse)

Pollutants	Burning Dump	Burning Backyard	Automobile Body
Particulate Matter	46	23	240 lb. per auto
Hydrocarbons	280	280	—
Oxides of Sulfur	1.2	0.8	—

Source: Reference 14

Table 3

Comparison of Combustion Products Emitted to Air  
by Various Industrial and Domestic Systems

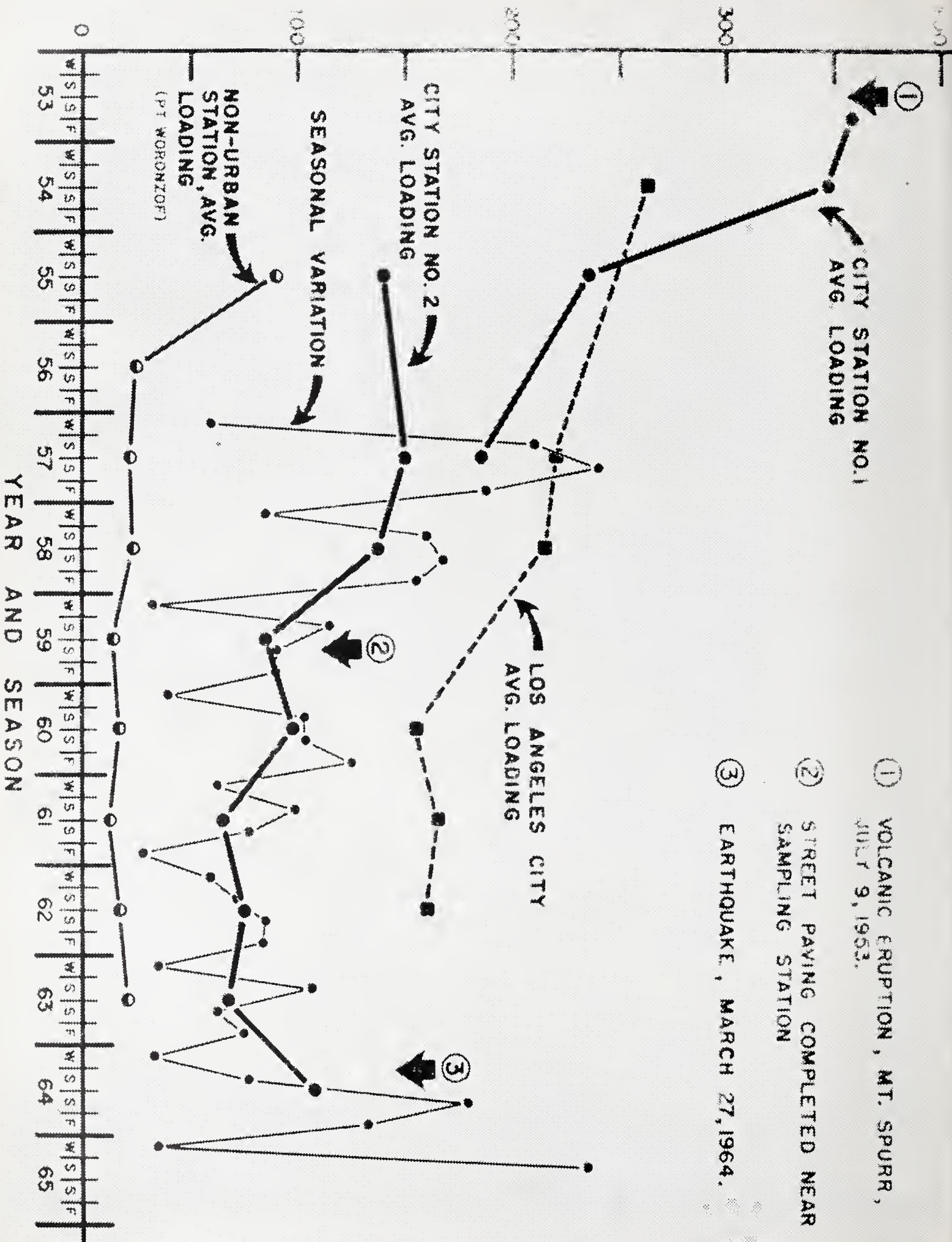
Fuel Used	Fuel Req'd. to Pro- duce 10 <sup>9</sup> BTU	Equivalent Combustion Products Emitted per 10 <sup>9</sup> BTU* Provided (Pounds)					
		Partic- ulates	Water Vapor	Carbon Mon'ide	Hydro- carbons	Sulfur Oxides	Nitrogen Oxides
INDUSTRIAL AND POWER GENERATING USES							
Oil	11,500 gal.	100	99,000	.5	37	910	1200
Coal	80 tons	800- 2,000	84,000	8-240	16-80	1200	1600
Gas	1.33 x 10 <sup>6</sup> cf	20	134,000	.5	0	1	520
DOMESTIC AND COMMERCIAL HEATING							
Oil	11,500 gal.	150	99,000	23	23	910	415
Coal	80 tons	1600- 2000	84,000	4000	800	1200	155
Gas	1.33 x 10 <sup>6</sup> cf	25	134,000	.5	0	1	640
Electri- city	Any of above	0	0	0	0	0	0

Average values are used for gas and oil, and actual analysis is used for Anchorage area coal. Presumed efficiencies are 75%, 60%, and 50% for gas, oil, and coal respectively.

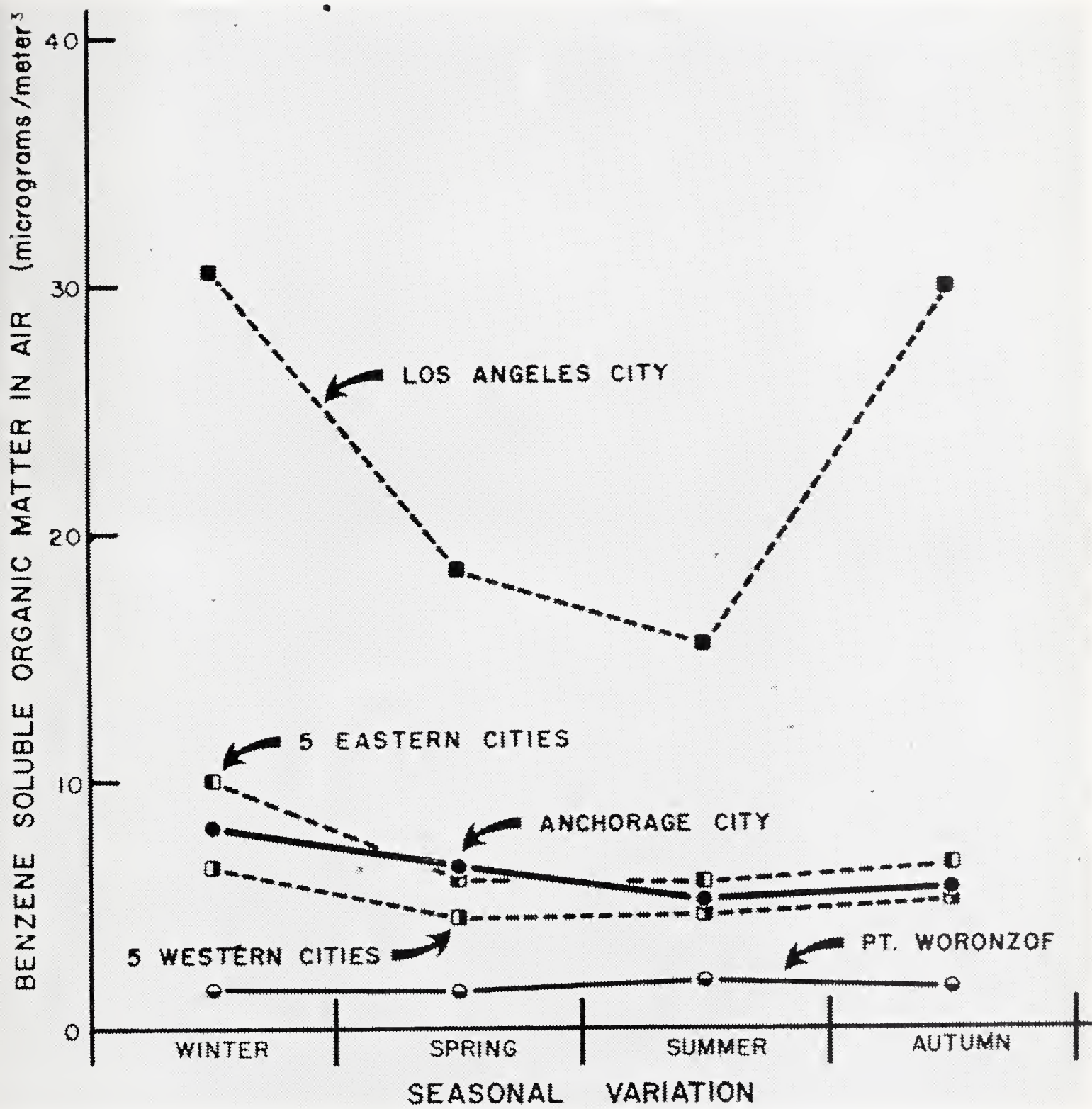
Sources: References 9, 11 and 12.

\*10<sup>9</sup> BTU is the approximate annual heat requirement for 6 average-sized homes in the Anchorage climate.

# TOTAL PARTICULATE MATTER (micrograms/meter <sup>3</sup>)







# NOME CLINIC

MILO H. FRITZ, M.D.

ANCHORAGE, ALASKA

12-18 June 1965

Earlier this spring the Alaska Native Health Service asked if I would be willing to hold a T & A clinic at the Maynard McDougal Memorial Hospital in Nome. This Institution is run by the Methodist Church and I had been there many times before when the redoubtable Fred Langsam, M.D., was the doctor in charge. In those remote times it was the only Alaska hospital certified by the combined commission of The American Medical Association and The American Hospital Association. It kept its certification owing to Fred Langsam's use of consultants from the Air Force, the Army and civilian physicians throughout the State. But since he left I have never been invited back to Nome. So when the opportunity arose for going there and doing T & A's I eagerly accepted it.

Accordingly, after hospital rounds at the Providence Hospital in Anchorage at 6:30 in the morning of June 12, I took off at 8:00 hoping to make it to Nome by that Saturday night. As usual, I went through the Rainy Pass area never being quite sure whether I was over the Pass. It is the kind of pass where if you are not in it you are in something else that ends up in a blind canyon. Therefore, if the day is poor and the ceiling 3000 feet or less, the cautious and the safest way to go is through Ptarmigan Pass and down a fork of the Kuskokwim River where you can pick up the Farewell beam. And from Farewell it is no trick at all to find your way to McGrath.

At McGrath I found that the Northern Commercial Company's supply of 100 octane gas had been accidentally diluted with diesel fuel. But fortunately I obtained a full load from Alaska Airlines and so continued on my way. I reached Unalakleet, crossing the mighty Yukon River and the Unalakleet Mountains. I followed the Unalakleet River with no difficulty and landed on the strip tying up the plane and walking into the still quaint village of Unalakleet built on the sand spit between the Bering Sea and a lagoon into which the Unalakleet River empties.

The houses are mostly frame but many log houses persist. The gardens which used to surround every habitation up to 10 or 15 years ago have almost completely disappeared. They were a unique feature of this little town and had been started by a Swedish Covenant Missionary many years ago.

I ate my lunch on a barge drawn up on the lagoon beach and enjoyed the brilliant sunshine and blue skies of that particular day. A group of little Eskimo kids played the games of childhood on the beach and talked to me in a friendly fashion as I regretfully walked back toward the airstrip and climbed aboard once more after the usual consultation with the FAA crew on duty.

I decided I would land at Moses Point which I had passed and spoken to many times on my trips in this part of the world but at which I had never landed. Accordingly, I landed on the shorter of the two runways in the teeth of a steady 30 knot wind which cut my landing ground speed to what seemed like a fast canter. A brief consultation with the FAA controller revealed that Nome was clear all right but that the weather between Rocky Point and Cape Darby was dubious according to a pilot report.

But the day was bright, the sky blue and the sea sparkling and the wraiths of fog that could be seen far ahead after I got airborne seemed a remote menace indeed.

But eventually I got into it and as it menacingly ebbed and receded toward the rocky coast I was forced down lower and lower until I was flying just 50 feet off the surface nervously listening to the reports from Nome which showed everything to be easy there if I could just get around these two rocky capes. Finally, Solomon appeared under my wings and eventually I could clearly hear Nome and be understood by them as I bleated into the microphone telling them of my position. In a brief time, the ceiling lifted, the sun shone once more, the sky became a pristine blue, dappled with fat little clouds. All the anxieties of the fog just past seemed to disappear as I touched down at Marks Field. I tied the airplane down,



forgetting of course to turn off the main switch due to my fatigue and relief at making my land-fall safely.

A former patient, Mr. Galliher, took me into town. He returned and told me about the main switch the evidence of which appeared in the navigation lights which were still turned on. He returned me to the field, I unlocked the plane, turned off the switch and then went back to the North Star Motel, crowded to the rafters with construction men. I crawled into bed in the reserved room overlooking the sea wall, the social center of the younger set of Nome (when it isn't raining).

The next day was Sunday and I walked around the dilapidated moldering little town. I was amazed at the heaps of broken down equipment and automobiles that festooned every vacant lot. There was ceaseless activity of construction equipment going to and returning from a long road that is being built along the coast to Teller. I went to morning service at the Methodist Church and was far more interested in the cute little Eskimo kids crawling around and under the pews than I was in what was going on in the pulpit. I checked in at the hospital and then went down to the "old town" where I saw an old timer doing a little placer mining on the beach. He was Andy Anderson, 70 odd years of age. Before long I was busily digging sand from the beach while he ran it through his sluice box on the bottom of which were several silver plates covered with mercury. On these mercury covered plates a coarse meshed screen rested.

After awhile he warmed up telling me stories of the olden days. He then showed me how they used to clean up, as the saying went, by scraping the mercury with its imprisoned gold flakes off the silver plates with an old rubber heal and then burning the mercury off in an iron pot leaving the gold residue in the bottom of the pot. For all my years in Alaska I have never done any mining and even though I now scarcely qualify as a miner, I had a good time. The amount of gold that I recovered is not apt to upset the balance of payment or the International Gold Market but it was fun.

While I was there and Andy was across the street in his house preparing coffee and cake a load of tourists came by from Wien's Hotel. One of the passengers, a stout man with a New England accent, asked me what I was doing. I replied that I was doing a little placer work for gold. He was obviously impressed and undoubtedly thought

that I had come up there in 98. He then asked how long I had been working at it and I told him 10 minutes. He thought I was giving him a sassy answer and huffily turned away climbed in the bus and took off for safety, far to the east.

In the evening I went back to the hospital and with the help of Miss Betty Shamlin, the chief nurse, I examined the 8 youngsters that we were to do in the morning. They were the usual cute Eskimo kids and everyone of them came from St. Lawrence Island. Most of them had been referred by one of the itinerant physicians (name unknown) from the Alaska Native Health Service as being in need of T & A's. The age old but, to far too many physicians, ever new criteria of greatly enlarged tonsils and nasal obstruction from adenoid hypertrophy and perforated or scarred drums were present among others. The greatest number had one or both eardrums damaged or perforated, three cases being bilateral. Many ears were draining.

As day succeeded day, the patients came and went in an orderly fashion boarded outside the hospital by an Eskimo lady who had, what in Nome, would be considered a large home.

On the second day in Nome a young man who had completed his second year of medical school at the University of Tennessee, in Memphis, arrived. He was Austin Carr and soon became the backbone of our effort there. He made the whole trip unusual and stimulating. He evinced a real interest in the problem of these Eskimo children and the wealth of clinical material however tragic that they represented.

In the evenings I always walked along the seawall or breakwater and took a different way through town between the hospital and the North Star Hotel.

Since I was there three or four years ago the seawall had been completed to protect the town against storms from the Bering Sea. A new Federal Building had been erected of concrete and steel to replace the one across the street that is disappearing into the tundra at interesting angles. A new hotel had been built by the airlines for the care of their crews and tourists. A sewer and waterline was being built down one of the streets close to the hospital. But on the whole Nome is, I am afraid, a depressing sight, living in the glories of the past and dreaming of a future when gold will again be free and can be mined at a profit. profit.

One evening, Betty Shamlin, the chief nurse and Jamie Umbarger, the lab technician, invited several of us to attend a showing of Kodachrome slides of historical photographs collected over the years in Nome by Mrs. Carey McLain. This was a fascinating collection of photographs. I hope they will find their way to the University of Alaska Museum before they are lost in the inevitable fire that seems to destroy everything in the wooden town. These slides showed the city of Nome packed with elegant wooden buildings and long wooden streets crowded with people like Wall Street at noon. The beaches were covered with tents before each of which was a "Long Tom" beach box by means of which the stampeder extracted the gold from the sands along the sea, an area now deserted except for rusting machinery and youngsters playing.

There were slides of the great fire in the 1930's, a blow from which Nome has never recovered and will not recover until gold is freed once more.

Even today there are several rusting great dredges sinking into the primordial ooze of the tundra completely out of operation.

On another sparkling clear evening the girls took me in the Jeep out to Port Safety to the east of town where great floes of ice had beached themselves and were slowly disintegrating in the brilliant sun.

Outside the dismal town the treeless hills were a beautiful green and yellow and the little streams sparkled and twinkled on their way to the lagoons along the sea.

Eventually, Barbee gave the last anesthetic; Betty Shamlin took care of all the details of admission and discharging and the work in the surgery; Austin Carr, the two student nurses, the two Eskimo nurses that helped us, and I finished the 44th case and it was time to take off for home. I went out to the field and cranked up the faithful Tri-Pacer. Austin Carr helped me across the runway by hanging on to the upwind wing and I was off for home.

The trip was lovely in the evening with the sun behind me as I sped along the coast past Moses' Point, Solomon, Golovin and finally Unalakleet, across the great Yukon River, over the plains to McGrath where in the setting sun I landed. In spite of the lateness of the hour I was able to purchase a fresh supply of gas from Alaska Airlines and continue on my way.

The trip above the north fork of the Kuskokwim into the mountain fastness was ominous because of the turbulence and the gray cloud layer at about 7000 feet but I finally threaded my way along Ptarmigan Pass, past Pontilla Lake and the Branham's Hunting Lodge, down past Alexander Lake and past sleeping Mt. Susitna where I was first able to see the lights of Anchorage. Finally, dog tired and exactly 2 minutes after 12:00, I dropped the tired airplane with its even more tired pilot, safely onto the runway at Merrill Field, happy in the sense of accomplishment that every itinerant clinic leaves in me.

### ANNOUNCING THE DATES

of the  
Tenth Congress of the  
Pan-Pacific Surgical Association

PART I—September 20 - 28, 1966  
in  
Honolulu, Hawaii

\* \* \* \*

Second Mobile Educational Seminar  
PART II—September 28 - October 10, 1966  
in  
Japan and Hong Kong

\* \* \* \*

PART III—September 28 - November 1, 1966  
in  
Japan, Hong Kong, The Philippines,  
Thailand, India, Singapore, Australia  
and New Zealand

The Tenth Congress offers an extensive scientific program presented by more than 450 leading surgeons from the United States and 22 other countries in 12 different specialties: Colon and Anorectal Surgery, General Surgery, Nerosurgery, Obstetrics and Gynecology, Ophthalmology, Otolaryngology, Orthopedics, Plastic Surgery, Thoracic-Cardiovascular Surgery, Urology, Anesthesiology and Radiology. All physicians and surgeons are invited to attend these meetings.

For further information, please write:

Room 236, Alexander Young Building  
Pan-Pacific Surgical Association  
Honolulu, Hawaii 96813



# CAN PRIVATE AND PUBLIC HEALTH AGENCIES COEXIST?

HOLLIS S. INGRAHAM, M.D.

Reprinted From National Tuberculosis Association Bulletin, September, 1965

On an ever-increasing scale, federal, state and local government agencies are becoming involved in what was once thought to be the province of voluntary organizations.

What does the growing presence of government mean to private voluntary organizations? Are you about to be swallowed whole by official agencies? What is your future? To put it more harshly: Does the voluntary agency have a future? If your historic mission possibly over?

If the issue is really voluntary versus government agencies, it seems a one-sided contest at best. The government agency operates from a powerful statutory base. Its deeds are law. It also wields the most potent lever of all—the power to tax. Does the community need a new health center or an immunization clinic? Then let's appropriate money from tax revenues to provide them. Is raw milk a health hazard? Then simply pass a law giving the health department power to enforce pasteurization.

Yet, in spite of government's undeniable advantages, there is little evidence that the private agency is withering away. In New York, for instance, there are over 80 separate state-wide organizations involved in health activities. Most have a retinue of local affiliates. Their concerns range from allergies to X-rays and all points in between. In this country, there were over 20,000 local agencies active in the health field alone the last time anyone made a serious effort to count. That survey was made back in 1945, and I challenge you to name any voluntary organizations that have since faded from the scene. And many new organizations have been created since then.

Surely this profusion of private agencies, when added to federal, state, and local government agencies with similar interests, poses a sharp question: If government is doing the job, why should citizens support an army of private agencies? If so many private agencies are on the job,

why must taxpayers tolerate even deeper government entrance into the health and welfare fields?

It's not an easy question. It is a penetrating query that gets right to the heart of this nation and the way we go about solving community problems.

## The Heart of the Matter

Let me begin with public health and a man named Lemuel Shattuck. Lemuel Shattuck wasn't a government official. He wasn't even a physician. He was a bookseller in Boston over a century ago. Yet this Massachusetts businessman was a prime mover in the eventual development of American public health—which sets the world standard today.

Shattuck found, through his interest in genealogy, that vital statistics in this country were pretty sketchy. This, the historians tell us, is how he became aware of community health problems. He became interested enough to engineer the appointment of a commission to make a sanitary survey of Massachusetts. He was named the commission's chairman, and he authored its final report.

The Shattuck Report is regarded as one of the strong stones around which the foundation of American public health was constructed. Not only did Shattuck urge attention to the health problems of his day, but here was a man proposing over 115 years ago air pollution control, treatment of alcoholism, and urban planning.

He was a bookseller, but a bookseller who cared about things beyond his personal gain. He enmeshed himself in community afflictions that perhaps did not disturb the comfort of his life but that did disturb the comfort of his conscience.

Lemuel Shattuck displayed a quality that like to call "civic zeal." It's a quality that permeates all successful voluntary organizations. The New York State Health Department owes its existence in great part to this same civic zeal. The department is largely the product of a reorganization championed over half a century ago by the State Charities Aid Association.

Hollis S. Ingraham, M.D., has been commissioner of health of the State of New York since 1963, having previously been appointed deputy commissioner of health (in 1948) and first deputy commissioner. Well-known in the public health field, Dr. Ingraham has served on numerous committees, and in 1960-61 he was special consultant to the Surgeon General on problems of quarantine.

This same catalyst—civic zeal—has sparked attacks on numerous other deplorable health conditions. The nationwide network of tuberculosis associations that eventually played so vital a part in fighting that disease was born in the minds of a few private citizens who thought more information should be made available about TB prevention and cure.

### **Voluntary Agencies Establish the Beachhead**

Are public and private agencies really partners? Or are we rivals? The answer in part is this: When the full force of government is finally launched against a health problem, a beachhead has often already been established by volunteers. The volunteers agency spots a problem and meets it, often with a modest program of actual care. When, through these early efforts, the public is sold on the need to extend the program across the board, government then gets a mandate to launch a full-scale effort. This then frees the voluntary agency to seek out new challenges or to promote further research, education, or new approaches to the original problem. This pattern has been traced by Gunn and Platt in a classic study on voluntary health agencies in America.

Infant and maternal care provides a good example of this cycle in motion. Visiting nurse associations were the first to offer services to the public to stem the heavy death tolls among newborn babies and women in childbirth around the early 1900's. Gradually this function was absorbed almost totally by public health departments.

Today visiting nurses provide care for the victims of chronic diseases—heart, cancer, and stroke—the leading health threats of our time.

### **Where Was the Government?**

I have suggested the nasty possibility that the voluntary agency may have outlived its usefulness. I've mitigated that damaging insinuation in part by showing that voluntary citizens groups usually lead the way in health crusades. In doing so, I fear I may have distorted the image of the public agency. This is a distortion I feel compelled to untwist.

If private citizens had to act first, where was government? If private agencies saw the problem, why didn't government? If private organizations had the courage to act, why not government?

Let me make perfectly clear that we are not dealing with a problem of private energy versus public lethargy. Nor is it a matter of private wisdom and public pigheadedness. And to sum it up, I am not trying to paint a contrast of private virtue and public defect.

What I do intend to demonstrate is that voluntary agencies have special—even subtle—qualities that government agencies, by their very nature, cannot possibly possess. However, the way that you use these special qualities is essential to the success of public health programs. I call these special qualities the public virtues of private agencies, and there are six of them. You are evangelists, crusaders, communicators, lobbyists, partners, and watchdogs.

### **Evangelists**

Let's talk about your evangelism first. The very fact that you devote your time to a project elevates that project in the public eye. After all, you're not getting paid for your effort. You could just as well be out playing golf, enjoying a good rubber of bridge, or fishing peacefully along a trout stream. If some civic concern is pressing enough to draw you from these pleasant pursuits, then it is a worthy cause, or at least your neighbors are likely to judge it as such.

Now, let's say you lend this evangelic fervor to some new public program under consideration. Let's say it's a program to rehabilitate the handicapped or to screen people for tuberculosis. Your very support adds a zest to the venture that it would lack if only government was behind it.

### **Crusaders**

Now let's consider your performance as crusaders. Some public officials, especially those who have been burned, are deeply mindful of Alexander Pope's advice on new ideas. "Be not the first by whom the new are tried, nor yet the last to lay the old aside," Pope cautioned.

I am not making a case for official timidity or for a bland, bloodless government. But the most able public servant is the one who knows his voluntary agencies and knows how to work with them to build the beginnings of support for something that is needed, new though it may be.

Some public issues will inevitably generate a white heat. The public official who plunges rash-



ly into the fray without building genuine citizen support has committed a tactical error. He has failed to temper his technical knowledge of public issues with human wisdom.

Those of you in private agencies, on the other hand, can be in the vanguard of ideas no matter how novel or untried. You may shout your support from the rooftops for birth control—or against it; for more sex education in the schools — or against it; for fluoridation—or against it. If your efforts should occasionally prove misguided the most you will be accused of is an excess of good intentions.

### Communicators

Speaking of shouting from the rooftops brings me to the third public virtue of private agencies, your advantage as communicators. The art of communications has been defined simply as getting an idea from your head into someone else's without damaging the idea too badly in transit. You are in a good position to do this.

Let's say your voluntary agency is backing a new county TB clinic. You can spread the gospel to friends and neighbors. You can explain the goals of the program in terms that mean something to people. Support is then generated by respected community leaders in face-to-face contact with fellow citizens. I need not elaborate on the superiority of this kind of communication over formalized government public relations efforts.

### Lobbyists

The fourth public skill of voluntary agencies is your marked advantage as lobbyists. I do not, of course, refer to melodramatic backstairs pay-offs and the wining and dining of public officials. I refer to any legitimate action taken by groups or individuals to influence the acceptance or rejection of proposed government programs. Under this broad definition you can work a powerful lobby for good.

Let's compare what happens when the public official and the voluntary agency promote the identical proposal. Let's say the proposal is to provide home care services for the chronically ill. First, our public official has to sell his idea to his own agency. This means he must ask his superiors to do something that people instinctively avoid. He must ask them to do something new and something that requires spending more money.

It's not that his superiors are hidebound bureaucrats lacking in vision. But these gentlemen may still be reeling from the drubbing they took at last year's budget hearing. They are not anxious to draw fire again so soon.

But let's assume, for illustration, that our home care proposal is supported by the local health department and goes before the city council or the county board of supervisors. These, too, are worthy gentlemen. But they have developed a sharp sensitivity to taxpayer discontent. And one thing that annoys taxpayers is more public spending. Lawmakers are likely to give any new spending plan hatched and supported solely by bureaucrats a frigid reception, indeed.

But let's say that the home care program is urged upon the city fathers by respected, disinterested voluntary agencies. This is quite another story. These are neighbors and friends. This is the voice of the people. Even more important, it's the voice of the voters.

You can't very well accuse a group of housewives or busy private citizens of a bureaucratic power grab or empire building. This is the kind of spontaneous citizen demand for action that the able public official welcomes most—even if he had to engineer it himself.

### Partners

Now let me get to the fifth and most direct way in which you relate with public agencies—as working partners. I refer to instances where volunteers from your organization pitch in with the public agency to push forward some community crusade. It may be a campaign to get children vaccinated against measles. It may be a screening program for diabetes, glaucoma, or tuberculosis. Whatever the project, there is no measuring the total financial value of the hundreds of thousands of hours freely given by volunteers to public agencies every year. If official agencies had to hire these willing hands, the dollar value of volunteer services would become painfully apparent.

But dollar and cents savings are but a part of the dividend we get from your help. Volunteers working alongside official personnel breathe new life into a public project. Citizen participation provides the spark of community action and the spirit of community involvement. Voluntary workers make a public project become something not only **for** the people but truly **of** the people.

Which leads me naturally into the sixth and final public position of the voluntary agencies—their function as watchdogs guarding public agencies. It may sound like humbug for me to tell you to protect a government program. But I am thoroughly sincere. Public agencies are sometimes placed under difficult pressures. If you see the purse strings drawn so tightly around a worthy public program that the program will surely choke, then speak out. If a courageous public official is being roasted for taking a correct, though difficult position, support him. Let him know he is not fighting alone. Just as important, if your public social services are being run slip-shop by half-hearted, unqualified personnel, raise the roof. Insist that deadwood be removed and life breathed into the organization. As community leaders, you know what is expected of public services and you can demand them.

This completes my inventory of six special virtues of voluntary agencies that aid the public servant. You are evangelists with no axe to grind other than a demand for a better society. You are crusaders running a step ahead of the general public in knowing your community needs. You are lobbyists in the best sense, helping your elected officials to make the right public decisions. You are communicators whose message of hope comes through loud and clear. You are shirtsleeve partners with your public agencies, pitching in to get the job done. And finally, you are the conscience of the community—alert watchdogs seeing that the public servant does, indeed, serve the public.

In summing up, I'm going to borrow liberally from the sound thinking of my good friend Gordon Brown of the (New York) State Charities Aid Association. Has the voluntary agency completed its historic mission? Here's what he has to say on the subject: "If all our voluntary agencies were to disappear today, new ones would spring up tomorrow. They are a part of the American culture and system of free enterprise." I fully agree.

I also believe that if you give your public officials the kind of support I've described and if, in turn, they give you the benefit of their knowledge, you'll have a combination that is hard to beat—the expert and the willing citizen. Fortunate is the community that can boast of both.

1966

## ALASKA STATE MEDICAL ASSOCIATION CONVENTION PROGRAM

### WEDNESDAY, MAY 4, 1966

- 8:30 Registration
- 9:00 Invocation  
President's Address of Welcome—  
Royce H. Morgan, M.D.  
Moderator: L. David Ekvall, M.D.
- 9:05 Departmental Reports  
United States Government:  
Veterans Administration, Grace E. Field, M.D.  
U.S. Public Health Service, Holman R. Wheritt, M.D.  
State of Alaska:  
Dept. of Health & Welfare, Levi M. Browning, M.D.  
Dept. of Mental Health, John R. Rollins, M.D.  
Medicare Panelists:  
Levi M. Browning, M.D.; Thomas R. McGowan, M.D.; Robert Dunn, Social Security Office; Blue Cross Representative; A.S.M.A. Representative; Aetna Representative.
- 10:30 Intermission—Please visit the exhibits.
- 11:00 JAMES E. MAYNARD, M.D.  
"Study of Morbidity and Mortality Among Eskimo Infants in Western Alaska."
- 11:30 ROBERT A. ALDRICH, M.D.  
"Infant Mortality and Morbidity." Sponsor: Ayerst Laboratories; Smith Kline and French.
- 12:00 LUNCH  
Moderator: Don Val Langston, M.D.
- 1:30 PHILLIP J. FIALKOW, M.D.  
"Chromosomal Abnormalities." Sponsor: University of Washington.
- 2:00 IRWIN A. SCHAFER, M.D.  
"Inborn Errors of Metabolism, Their Early Detection and Treatment." Sponsor: Sandoz Pharmaceuticals.
- 2:30 ROBERT A. ALDRICH, M.D.  
"Mental Retardation, Diagnosis and Management." Sponsor: Ayerst Laboratories; Smith Kline and French.
- 3:00 Intermission—Please visit the exhibits.
- 3:15 PHILLIP J. FIALKOW, M.D.  
"Genetic Mechanism in Disease." Sponsor: University of Washington.
- 3:45 JON M. AASE, M.D.  
"Congenital Defects in Alaska."
- 4:15 Business Meeting.
- 6:30 Annual Dinner Meeting  
ALASKA ACADEMY OF GENERAL PRACTICE—Anchorage-Westward Hotel.

### THURSDAY, MAY 5, 1966

- Moderator: Alistair Chalmers, M.D.
- 9:00 ROBERT E. MERRILL, M.D.  
"Overall Views of Birth Defects with Present Day Concepts, Detection, Treatment, and Prevention." Sponsor: National Foundation and Mead Memorial Fund.
- 9:30 IRWIN A. SCHAFER, M.D.  
"The Effect of Drugs on the Fetus." Sponsor: Sandoz Pharmaceuticals.



- 10:00 DONALD R. SMITH, M.D.  
"The Workup of the Pediatric Urologic Problem."  
Sponsor: American Cancer Society, Alaska Div., Inc.
- 10:30 Intermission—Please visit the exhibits.
- 11:00 SAUL J. ROBINSON, M.D.  
"Diagnoses of Heart Problems in the Newborn."  
Sponsor: Alaska Heart Association and American Academy of General Practice.
- 11:30 GEORGE B. LEWIS, JR., M.D.  
"Anesthesia for the Newborn."  
Sponsors: Merck, Sharp, and Dohme.
- 12:00 LUNCH  
Moderator: John Tower, M.D.
- 1:30 ROBERT E. MERRILL, M.D.  
"Detection and Treatment of Disorders of Amino Acid Metabolism."  
Sponsor: National Foundation and Mead Memorial Fund.
- 2:00 J. BRUCE BECKWITH, M.D.  
"Sudden Death Syndrome."  
Sponsor: Carnrick Laboratories and Upjohn Company.
- 2:30 DONALD R. SMITH, M.D.  
"Urinary Tract Infections in Children."  
Sponsor: American Cancer Society, Alaska Division, Inc.
- 3:00 Intermission—Please visit the exhibits.
- 3:15 ROBERT V. DeVITO, M.D.  
"The Burned Child."  
Sponsor: University of Washington.
- 3:45 ROY J. CORREA, JR., M.D.  
"Evaluation of Urinary Systems In Children."  
Sponsor: Virginia Mason Clinic.
- 4:15 Business Meeting
- 6:15 Hospitality Hour  
Sponsor: Anchorage Medical Society.  
Anchorage-Westward Hotel.
- 7:15 Annual Banquet  
ALASKA HEART ASSOCIATION  
Anchorage-Westward Hotel.

#### FRIDAY, MAY 6, 1966

Moderator: Helen Whaley, M.D.

- 9:00 J. BRUCE BECKWITH, M.D.  
"Uses and Misuses of Rectal Biopsy in Children."  
Sponsor: Carnrick Laboratories and Upjohn Company.
- 9:30 ALEXANDER H. BILL, M.D.  
"Spectrum of Malignancy in Childhood."  
Sponsor: Geigy Pharmaceuticals and Mead Johnson Laboratories.
- 10:00 JULIAN JOHNSON, M.D.  
"The Management of Cystic Disease of the Lung In Infancy."  
Sponsor: Alaska Tuberculosis Assoc., Inc., and Eli Lilly and Company.
- 10:30 Intermission—Please visit the exhibits.
- 11:00 GEORGE B. LEWIS, JR., M.D.  
"Prolonged Mechanical Ventilation of the Infant."  
Sponsor: Merck Sharp and Dohme.
- 11:30 RALPH C. BENSON, M.D.  
"Diagnosis and Treatment of Emergencies in Pregnancy."  
Sponsor: Schering Corporation.
- 12:00 LUNCH  
Moderator: Frederick Hillman, M.D.

- 1:30 ALEXANDER H. BILL, M.D.  
"Inguinal Hernia and Undescended Testes."  
Sponsor: Geigy Pharmaceuticals and Mead Johnson Laboratories.
- 2:00 ROBERT DeVITO, M.D.  
"Cleft Lip and Palate."  
Sponsor: University of Washington.
- 2:30 JOHN WILLIAM HILLMAN, M.D.  
"What the Orthopedist Should Do For the Infant In the First Three Years."  
Sponsor: National Foundation and Mead Memorial Fund.
- 3:00 Intermission—Please visit the exhibits.
- 3:15 —ALEXANDER H. BILL, M.D.  
"Lymphatics and Vascular Tumors."  
Sponsor: Geigy Pharmaceuticals and Mead Johnson Laboratories.
- 3:34 ROBERT E. MERRILL, M.D.  
"New Developments in the Field of Immunization."  
Sponsor: National Foundation and Mead Memorial Fund.
- 4:15 Business Meeting
- 7:00 Hospitality Hour  
Sponsor: ALASKA STATE MEDICAL ASSOCIATION. Anchorage-Westward Hotel.
- 8:00 Annual Banquet  
ALASKA STATE MEDICAL ASSOCIATION.  
Anchorage-Westward Hotel  
PHYSICIAN OF THE YEAR AWARD  
COMMUNITY SERVICE AWARD by Robins

#### SATURDAY, MAY 7, 1966

Moderator: Arndt Von Hippel, M.D.

- 9:00 Panel  
IRWIN A. SCHAFER, M.D.; JAMES E. MAYNARD, M.D.; ROBERT E. MERRILL, M.D.; DON VAL LANGSTON, M.D.; HELEN WHALEY, M.D.; JOHN TOWER, M.D.; HARVEY F. ZARTMAN, M.D.,  
"Approaches to the Comprehensive Care of Children with Birth Defects."
- 9:30 JULIAN JOHNSON, M.D.  
"The Surgical Treatment of Congenital Heart Defects in Infancy."  
Sponsor: Alaska Tuberculosis Association, Inc., and Eli Lilly & Company.
- 10:00 JOHN WILLIAM HILLMAN, M.D.  
"Nome Rehabilitation Program — It's Significance for the Alaska Physician."  
Sponsor: National Foundation and Mead Memorial Fund.
- 10:30 Intermission—Please visit the exhibits.
- 11:00 RALPH C. BENSON, M.D.  
"Uses and Misuses of Oxytocics in Delivery."  
Sponsor: Schering Corporation.
- 11:30 DONALD R. SMITH, M.D.  
"Abdominal Masses in Children."  
Sponsor: American Cancer Society, Alaska Division, Inc.
- 12:00 Closing Remarks
- 2:00 to 5:00 NEUROMUSCULAR CLINIC  
Anchorage-Westward Hotel.  
JOHN WILLIAM HILLMAN, M.D. & ROBERT E. MERRILL, M.D. Made available by the National Foundation and Mead Memorial Fund; Alaska Crippled Children's Association; and Elks Cerebral Palsy Commission.
- To be continued on May 8th at the Alaska Crippled Children's Association Treatment Center at 1020 I Street, Anchorage, Alaska from 9:00 to 12:00 and 2:00 to 5:00.

## PRESIDENT'S PAGE

ROYCE H. MORGAN, M.D.

*President Alaska State Medical Association*



*Dr. Morgan*

The First National Congress on Medical Ethics was held in Chicago, March 5-6. I attended this Congress both days and heard some excellent speakers and panel discussions. The discussion group in which I participated considered—"Physician Ownership of Pharmacies", and I felt like I was in a "loaded situation" with a "stacked deck." Attending this group discussion were many of the executives of pharmacy groups, such as American College of Apothecaries, American Association of Retail Druggists, and American Association of Pharmacists. The talk which impressed me most was, "Life or Death, Whose Decision?" Copies of this address can be obtained and supplied through the Association's office if sufficient interest is expressed.

On March 11, it was my privilege to be with the Fairbanks Medical Society in their monthly meeting. Doctor Robert Billings, Doctor Fred

Hood and Mr. Vernon Walker accompanied me, and each of us was impressed and enlightened with the experience. The interest displayed by this component society, in the total program of ASMA, is most gratifying. This meeting provided another opportunity to introduce Mr. Walker, the new Executive Secretary to a local society. Considerable time was devoted to discussion of pending legislation as related to medical practice in Alaska. Some timely "plugs" were made for a good attendance at the Annual Meeting, scheduled for May 4-7 at Anchorage.

Mr. Walker traveled to Chicago on March 17 and attended the conference on Mental Health. This was followed by two days of orientation in the AMA offices under the guidance of Sherwood Williams, AMA Field Representative. Enroute, he also visited two state medical association offices, conferring with the respective executive secretaries, and analyzing in detail their organization and operation. Your association's office at 519 W. 8th Avenue, in Anchorage is now fully established and transfer of records and files from Doctor Wilkins' office is almost completed. Membership dues have been received and reported from approximately two thirds of the active members as of March 30. This is encouraging, but also very essential if we are to achieve our fine program and maintain executive leadership.

The big event before us now is the State Convention. Programs have been mailed to all members of the association, and you will also find it printed elsewhere in this issue. Some excellent and outstanding speakers have been engaged for this meeting.

Our business sessions are scheduled for 4:00 P.M. daily. We can meet as long as we find it necessary, without interfering with the scientific program or cutting the time of some speaker. Please send in resolutions early in order that the resolutions committee can carefully review them before the first business session. I hope to see a big turnout at the 21st Annual Convention of the Alaska State Medical Association. Don't miss this convention! Let's make it our best, yet!



# ALASKA MEDICINE

Volume 8, Number 2

June, 1966

Alaska med.





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# Alaska Medicine

Vol. 8, No. 2

June, 1966

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# ALASKA MEDICINE

*Official Journal of the Alaska State Medical Association*

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Manuscripts should be typewritten, double-spaced, preferably in duplicate. All tables and illustrations should be accompanied by brief legends.

References to the literature should be numbered consecutively according to the order of their appearance in the text. The bibliography should be listed numerically at the end of the article in the following style: authors' names, title of article, volume, page and date. For example: Smith, A. B.; Jones, C. D., and Brown, E. F.: The Treatment of Pneumonia, J. Am. Med. Assoc. 56:512, 1959.

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# CONVENTION HIGHLIGHTS

## 1966 ANNUAL MEETING

Anchorage - Westward Hotel

May 4, 5, 6 & 7, 1966

The twenty-first annual meeting of the Alaska State Medical Association is now history, but a retrospective look at the four-day session reveals some important highlights and accomplishments.

The highest attendance of physicians in the history of the Association was recorded at the registration desk. Total physician registration was 167 with ASMA membership accounting for 91 of this total. Non-physician guests numbered 43, and 67 representatives of the more than 40 exhibitors entered their names on the registration books. As usual there were a few who did not register. A reasonable estimate of these non-registered visitors when added to the foregoing groups results in attendance total of approximately 300.

Certainly one of the high points of the 1966 meeting was recognition of two long-time physicians of Alaska at the annual banquet held on Friday evening. Dr. Charles E. Chenoweth, Anchorage physician, was honored as the Physician of the Year; Dr. William M. Whitehead of Juneau received the association's 1966 Community Service Award. Dr. Chenoweth has been a practicing physician for half a century, having come to Alaska in 1954. Dr. Whitehead has spent more than 25 years in Alaska and currently fills the post of secretary to the State Board of Medical



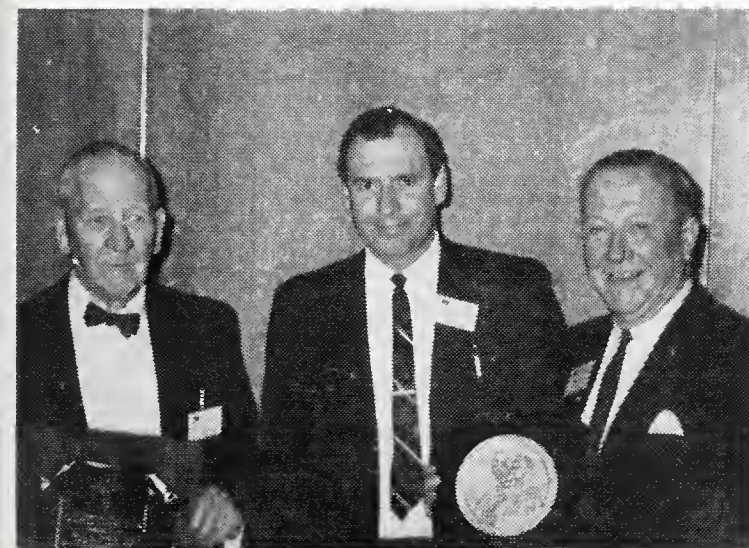
Dr. Shuler - President

Examiners, rounding out 23 years at this job.

The scientific programs were well attended and each speaker presented his paper or subject to attentive and interested auditors.

The three scheduled business sessions were again cramped for time this year, but society business was completed without a special session on Saturday. Reports from most of the principal committees were heard and approved, although some of these reports were not presented orally to the House of Delegates, but written accounts of activity were submitted later.

The association approved one amendment to the by-laws, which was actually a carry-over from the 1965 annual meeting. Article VI, Section 2 was amended to provide that the vice-president rather than the president-elect shall succeed to



Dr. Chenoweth Dr. Morgan Dr. Whitehead



the presidency in the event of a vacancy in that office during the year.

New officers named during the 1966 meeting were as follows: Dr. Robert H. Shuler of Sitka, president; Dr. Robert B. Wilkins, Anchorage, president-elect; Dr. James Lundquist, Fairbanks, vice-president; and Dr. A. C. Chalmers of Anchorage, secretary-treasurer. Dr. Nicholas Deely, Fairbanks, and Dr. Edward Spencer, Sitka, were re-elected to two-year terms each as councilors from their respective districts.

The annual budget, as submitted by the Council, was adopted with a total anticipated income of \$42,850.00. Proposed expenditures of \$41,015.00 were approved. A copy of the budget as adopted follows:

ALASKA STATE MEDICAL ASSOCIATION  
1966 ANNUAL BUDGET

ANTICIPATED INCOME	
DUES	
Regular Members	
(ASMA only) .....	\$28,350.00
Associate Members .....	300.00
CONVENTION	
Exhibits .....	2,500.00
Banquet & Registration ....	1,650.00
Contributions—Sponsors	
etc. ....	2,900.00



Dr. Chalmers - Secretary - Treasurer

INTEREST ON SAVINGS.....	1,100.00
From ALASKA MEDICINE	
(Business Services) .....	3,000.00
MISCELLANEOUS	
(Refunds, etc.) .....	350.00
<hr/>	
TOTAL Estimated Income .....	\$40,150.00
CASH BALANCE from Previous Year	
(Gen. Fund only) .....	2,700.00
<hr/>	
TOTAL RESOURCES (Exclusive of	
Savings Account) .....	\$42,850.00

ANTICIPATED EXPENSE	
DUES LIABILITIES	
AMA—ERF Contribution .....	\$ 1,260.00
Aces & Deuces, dues & payments .....	125.00
AAA MEDICINE, Subscriptions	
for members .....	780.00
OPERATIONAL EXPENSE	
Salaries (Exec. Secy, Office Secy,	
& extra help) .....	19,600.00
Payroll Taxes—Employer share	
(FICA & ES) .....	950.00
Rent—Headquarters Office .....	2,100.00
Accounting, Bond & Legal Expense ....	1,000.00
Printing, Duplicating &	
Office Supplies .....	800.00
Postage .....	300.00
Telephone & Telegraph (All ASMA	
services) .....	750.00
Travel (Employees, inc. monthly	
allow. Ex. Secy.) .....	1,700.00
Miscellaneous expense.....	600.00

DELEGATE, ASMA OFFICERS &	
COMMITTEE EXPENSE	
Travel, meetings & conferences,	
publications & reports .....	1,250.00
CONVENTION EXPENSE	
Secretarial service (extra	
employment for meetings) .....	250.00
Speakers .....	3,000.00
Printing (Programs, tickets, etc.) .....	450.00
Banquets .....	1,800.00
Entertainment .....	200.00
Miscellaneous Convention Expense	
(Awards, Rentals) .....	600.00





Dr. Lundquist - Vice President

CONTINGENCY FUND .....	2,000.00
*CAPITAL EXPENSE	
Furniture, Office Machines & Equipment .....	1,500.00
TOTAL PROPOSED BUDGET .....	\$41,015.00

\*Initial equipment for Headquarters Office.

The Resolutions Committee recieved 26 resolutions and presented each one separately to the House of Delegates for consideration. Ten resolutions were defeated by vote of the members or ruled out of order by the presiding officer. All resolutions adopted by the House of Delegates are given below

#### RESOLUTION NO. 1

WHEREAS the Alaska State Medical Association recognizes with admiration and deep gratitude the knowledgeable contributions, distinguished service and innumerable achievements secured by Robert B. Wilkins, while donating his services at considerable personal and professional sacrifice of time and effort and without compensation, to the multiplicity of duties involving a secretary, treasurer and an executive secretary over a period of twelve years

NOW THEREFORE BE IT HEREBY RESOLVED that this membership go on record as expressing sincere thanks and appreciation both individually and collectively for the meritorious services performed in our behalf over the years by Robert B. Wilkins, M.D.

#### RESOLUTION NO. 2

##### DUES

WHEREAS the ASMA dues has now been set at \$ 225.00 per year, and AMA dues of \$ 45.00,

WHEREAS the House of Delegates of the AMA voted at its last meeting in Philadelphia to increase the AMA dues by \$25.00 per year and this matter will come up for final vote in Chicago June 22nd and 23rd,

WHEREAS it is likely that the AMA will elect to increase the dues by \$25.00 per year,

BE IT RESOLVED that the ASMA dues be reduced to offset this increase in AMA dues and not exceed \$ 200.00 per year.

#### RESOLUTION NO. 3

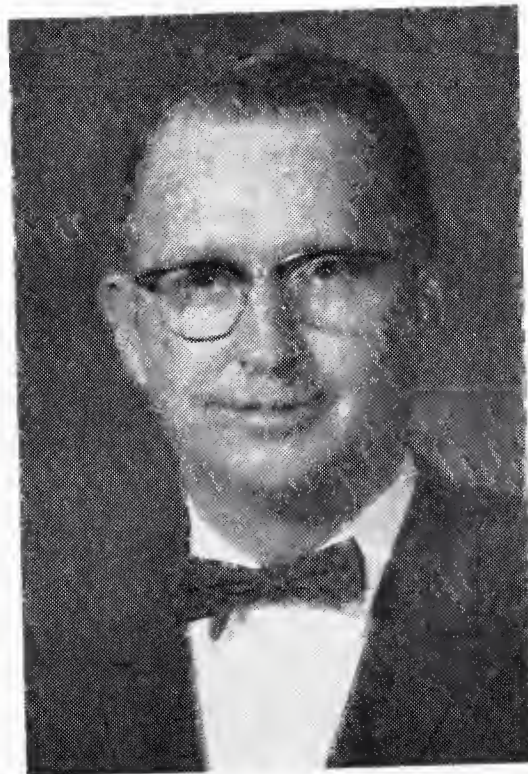
##### MEDICAL PRACTICE ACT

WHEREAS the need for the revision of the medical practice act, has long been recognized by the Medical Association; and

WHEREAS recent changes placing the medical examining board in departments with other examining boards does not completely correct the situation; and

WHEREAS considerable time has been spent and more will need to be spent to present and augment an effective medical practice act;

NOW THEREFORE BE IT RESOLVED that the Alaska State Medical Association effectively present their desires for medical practice act; and further to perfect this medical practice act, a standing committee be appointed by the president before the close of the meeting.



Dr. Wilkins - President Elect



## RESOLUTION NO. 7

### MALPRACTICE

WHEREAS both medical and legal professions have found the advisability of a medical legal committee to screen malpractice actions; and

WHEREAS such a committee would be more effective on a statewide basis;

NOW THEREFORE BE IT RESOLVED that a "Medical-Legal Committee" be established to screen malpractice actions before filing and weed out the nuisance suits. The physicians in turn can agree to provide expert witness for the plaintiff in suits that are justified.

## RESOLUTION NO. 12

### P K U

WHEREAS there is existing law requiring a P K U test on every new born child, the results duly registered on the birth certificate, and

WHEREAS good medicine cannot be legislated,

THEREFORE BE IT RESOLVED that the ASMA recommend that a P K U test or any test could be done only at the discretion of the attending physician.

## RESOLUTION NO. 13

### DUES

WHEREAS the House of Delegates voted in favor of a change in bylaws increasing the annual dues by \$ 25.00 per year at its last regular session in Philadelphia,

WHEREAS this will be voted on for final passage at the Annual Meeting in Chicago June 19th to 23rd and will most likely pass,

BE IT RESOLVED that the Alaska State Medical Association be in favor of this increase in annual AMA dues,

BE IT ALSO RESOLVED that the ASMA dues not be increased by this amount but that the \$ 25.00 increase will be included in the present ASMA dues of \$ 270.00.

## RESOLUTION NO. 16

### SERVICES TO A.A.G.P.

WHEREAS the Alaska Chapter of the American Academy of General Practice has requested the use of the services of the Executive Secretary during the next year, about two hours a month estimated, and at a rate of \$ 10.00 per hour, estimated \$ 240.00 per year, and

WHEREAS members of the AAGP, Alaska Chapter, are members of the ASMA,

NOW, THEREFORE, BE IT RESOLVED that the ASMA offer to the AAGP these services at this rate when possible.

## RESOLUTION NO. 18

### V.A. FEE SCHEDULE

WHEREAS the present contract for fees between the ASMA and the V.A. provides for a fee far

below the usual and customary fees, and

WHEREAS the present contract was negotiated many years ago, and

WHEREAS many State agencies refer to the V.A. Fee Schedule as a guide in establishing fees, and

WHEREAS the payment of a less than reasonable fee sharply limits the number of physicians who will contract with the V.A. thereby denying the veteran the right to free choice of physician, and

WHEREAS we do have an Alaskan Fee Schedule based on the Relative Value Scale adopted at the 1965 state meeting.

NOW, THEREFORE, BE IT RESOLVED that

- (1) The ASMA withdraw official recognition of the V.A. Fee Schedule;
- (2) that all contracts with the government agencies be negotiated only at the usual and customary fees;
- (3) that all fees be based on the Alaska Relative Value Schedule; and
- (4) that the various veterans organizations throughout the State be made aware of our position.

## RESOLUTION NO. 19

### NATIVE CITIZENS' HEALTH

WHEREAS at the 1966 ASMA convention the USPHS-ANHS representative reported that the native population of Alaska suffers from various medical problems at several times the rate of the national average, such problems including newborn mortality, malnutrition, accidents, infectious diseases and various chronic medical conditions, and

WHEREAS, although there are steadily improving clinical facilities operated by the USPHS to aid in the alleviation of these problems, clinical efforts alone cannot conceivably be expected to reduce Native health problems to a level commensurate with the national level, and

WHEREAS the principal cause of the tremendous health problems of the Alaska Native lies in the poor financial, educational, and social conditions of the Natives,

NOW, THEREFORE, BE IT RESOLVED that the ASMA endorse and urge a great increase in all efforts to improve the financial, educational, health, and social conditions of the Alaska Natives so that individually and collectively they can sooner be relieved of their excessive health problems and thus enjoy full benefit of life and citizenship.

## RESOLUTION NO. 20

### BUDGET

WHEREAS the budget is of vital importance in the functioning of the Medical Society, and

WHEREAS we are all interested in the use made of the increased dues, and

WHEREAS the evaluation of the expenditures requires some time,

NOW. THEREFORE, BE IT RESOLVED that the detailed budget report, both for the past year and that proposed for the next year, be mailed to the membership at least six weeks prior to the annual meeting.



RESOLUTION NO. 21

APPRECIATION

RESOLVED that the ASMA express appreciation to the exhibitors and companies for their financial and scientific contributions without which the meeting could hardly be successful.

RESOLUTION NO. 22

APPRECIATION

RESOLVED that the ASMA express thanks to Dr. Koeniger, convention chairman, and to Dr. Ekvall, program chairman, for a job well done.

RESOLUTION NO. 23

USE OF ALASKAN FACILITIES

WHEREAS qualified specialist care for most medical and surgical conditions, including cardiac surgery, now exists in Alaska, and

WHEREAS the proper basis for patient referral to a specialist is the considered judgment of his fellow practitioners of medicine, and

WHEREAS Government interference with the physician-patient relationship and the arbitrary use of governmental powers to alter referral patterns can only be harmful to the patient, the physician, and the general public,

NOW, THEREFORE, BE IT RESOLVED that all Federal, State and local health agencies involved in the procurement of medical and surgical health services be required to use Alaskan physicians and facilities when available unless this is contrary to the wishes of the referring physician.

RESOLUTION NO. 24

MEDICAL ASSISTANTS

WHEREAS the American Association of Medical Assistants, Inc. is an organization devoted to improving the standards of medical office personnel.

WHEREAS the doctors of the Alaska State Medical Association feel that this is a desirable and worthy purpose,

BE IT HEREBY RESOLVED that the Alaska State Medical Association heartily endorse the establishment of a state chapter of the American Association of Medical Assistants in the state of Alaska.

RESOLUTION NO. 25

WOMEN'S AUXILIARY

WHEREAS the medical wives are important members of the medical team,

WHEREAS the medical wives have always been important to us in our practices and our public relations,

BE IT RESOLVED that the Council of the ASMA meet the executive council of the Auxiliary to formulate policies of joint bodies and attempt to develop utmost cooperation.

On February 18th of this year the Council employed the association's first executive secretary and established a central office in Anchorage. During the weeks that have followed the May meeting Mr. Vernon Walker, the one chosen for this position, and Mrs. Alma Burch, his secretarial assistant, have been very busy with numerous tasks which follow any annual convention. Dr. Shuler, the new president, remained in Anchorage a full week immediately following the convention, and together with Dr. Chalmers and Mr. Walker a program of work and chart of operations for the year ahead were carefully planned.

The establishment of a full-time central office and staff has necessitated development of some new procedures. Actions taken by the membership during the annual meeting and decisions of the Council following the meeting are already being implemented. In the coming weeks each member will receive reports and newsletters designed to provide current information on all programs and activities of the association.



# MEDICAL PRACTICE AND SOCIETY

LOWELL E. WHITE, JR. M.D.

Associate Dean University of Washington School of Medicine Seattle, Washington

## Introduction:

It is indeed a pleasure to discuss with you the topic of "Medical Practice and Society" as we stand on the threshold of unprecedented progress for medicine in the future. The impetus for this revolutionary advance was set in Chicago in 1942 by E. Fermi and others from whom the ultimate understanding of the control of molecular behavior became known to us in the harnessing of atomic energy. Biology was aware of these advances, but in reality could see little this could contribute to the advancement of the biologic science of the day. This was not true as far as the physical scientist was concerned, and considerable emphasis was generated toward the advancement of this science with large sums of money invested in the propagation of the technology for the **insurance of our survival**.

Because of the tremendous advance in the physical sciences and the understanding that through research such steps could be taken, at the end of World War II, funds were made available for the advancement of biologic research, an escalating process which today finds us spending, within the medical sciences, over one billion dollars for research, an accumulation to date of 1.6 billion dollars. These advances into the understanding of biological processes as they relate to the functions of the body are well-known to society as disseminated by our own public interests.

## Background:

It is well-known that we have conquered many of the diseases prevalent within society and responsible for the major cause of death 30 to 40 years ago. The question society asks is: Why haven't we made further strides like sending a man to the moon, **in medicine**, and why isn't it our right to demand good health? This "hue and cry" of society has been gradually building up over the last 13 years and has influenced the 89th Congress to pass two important measures of health legislation. The first, known as Medicare, acts as a stop-gap to insure the funding of medical care to the

vast majority of the population. This single act will potentially put better than 50 percent of the population in an insured medical status.

The second and more far-reaching legislation passed by the 89th Congress is a call to the medical profession to organize its efforts and insure to the people of this nation that the best possible medical care is available to all. This bit of legislation was difficult to present to the public and was cloaked in the frame of the leading causes of death now prevalent within our United States--Heart Disease, Cancer, and Stroke--with the major mandate of the act leading to the development of regional medical programs. It was apparently well-known to the Congress that medicine had taken its greatest strides in the advancement of medical sciences by its organized approach to the problem at hand.

This is best illustrated by the history of the activity of the medical profession as we know it today. In the early 1800's, concerned by the inadequacy and inconsistency of much of the medical training prevalent within the United States, Nathan Davis rallied his colleagues in research of the insurance of adequate education of a university caliber as a part of the background of all individuals involved in the practice of medicine. As a result of this initial effort, in 1846 the American Medical Association was formed with this as their prime mission--to insure the standards of medical know-how presented to the public. As a result of Nathan Davis' activities and the collective activities of the American Medical Association, the Carnegie Foundation saw fit to support the work of Dr. Flexner which culminated in 1910 in the report which is well-known to all of us, and led to the establishment of the medical education programs that are so common today by strongly recommending the incorporation of the educational programs of medicine within the format of the university setting. The mere idea of this type of development was slow in coming and likewise slow in its implementation, reaching its peak at the time of World War



II where the productivity of this academic setting led to the understanding of various metabolic processes such as insulin metabolism, immune reactions, and the ultimate development of the supreme magic bullet - penicillin.

Thus, with the end of World War II, organized medicine was making major onslaught on disease and slowly turning more concern to the area of public health. Through the 50's increasing funds were invested in research on basic biologic mechanisms as they related to medicine, and the groundwork in biology was thus being set for a revolutionary counterpart accomplished by our physical conferers in 1941. Three major reports, the Coggeshall Report, dealing with changes in the future of medical education as they relate to the physician and the training of future health personnel, the Dryer Report, concerning itself primarily with the continuing education of the physicians and various members of the medical team, and the Report of the President's Commission on Heart Disease, Cancer, and Stroke, concerning itself primarily with the manipulation of resources and their efficient application to the control of disease and the efficient and progressive management of the public health, have led us to this stepping-off point. The recent President's Conference on Health was essentially designed as a giant information device to bring these three learned documents and the legislation passed by the first half of the 89th Congress into focus and established the foundation upon which quality care could be made available to all the people through a partnership for progress between the physician and his related organizations, the insurance carriers, the consumer, and the might of private enterprise, with the government acting as a principle financial catalyst.

#### **The Act:**

What is the character of this new law designed primarily to implement this progressive change in medicine as it steps forth from the age of controlling disease to the insurance of the public health? I believe this is best outlined by the Committee Report of the House of Representatives concerning Public Law 89-239 which reads as follows:

The program authorized under this legislation would provide support for cooperative arrangements which would link medical schools and affiliated teaching hospitals, with their highly-developed capabilities and diagnosis training and treatment, with clinical research centers, local community hospitals, and practicing physicians.

The cooperative arrangements would be planned and established locally with the participation of the existing institutions and medical practitioners. These cooperative arrangements would permit the interchange of personnel and patients and would provide for a more effective flow of information concerning the latest advances in diagnosis and treatment.

What is the magnitude of this problem? First of all, in 1964, 36 billion dollars, or 6 percent of the gross national product which employs 5 percent of the civilian labor force, was represented by the conduct of medicine throughout the nation - a nation which at that time had a population of 194 million people. It is anticipated that by 1970 the population will be 210 million, and 245 million by 1980, with a definite proportional increase of those under 19 years of age or greater than 65 years of age which now represent approximately 50 percent of our population. The existing medical school of our day, and those anticipated for the future, can no longer be expected to furnish to the population the highly-skilled medical doctor to maintain the intimate contact so prevalent in years gone by with the individual, healthy patient. Efforts therefore must be made to increase the efficiency of the highly-skilled medical professional, not by mandate, but by his own intuition. This is the basic philosophy presented by this far-reaching legislation.

It has been well-known that within the United States, when a problem of major magnitude presents itself, we band together to solve it. This is well-documented in the book, **Democracy in America**, written by Alex D. Tocqueville over a century ago in 1831, when he noted:

Americans of all ages, all conditions, and all dispositions constantly form associations. They have not only commercial and manufacturing companies.... but associations of a thousand other kinds... wherever at the head of some new undertaking you see the Government in France or a man of rank in England, in the United States you will be sure to find an Association.

This form of grass roots development so prevalent in our country must be called forth by our profession, for it is indeed effective and productive as spelled out in these words by Secretary Gardner of the HEW when he was still in his post as president of the Carnegie Corporation:

In all fields (with the exception of religion, of course) government and private institutions form a partnership of rare effectiveness in the serving of the public interest.

The health endeavor is now poised on the threshold of such a partnership. Its dimensions and intensities are unprecedented. The implementation of such a vast step can indeed represent a tremendous challenge, particularly to those in a profession which has prided itself on the maintenance of individual contact between doctor and patient, a necessary commodity which must not be sacrificed on the altar of progress. The obvious secret to preventing such a chasm is careful planning, a concept which has only been recently recognized by business and brought to the front in World War II. Congress, in one of its wisest moves, insured that this step would be taken by limiting the initial legislation in this area to strictly a planning phase in order to capitalize on the information which had been gained from our recent studies in the trends of medical economic development. Realizing the complexities of the situation, simple pump priming through the presentation of additional resources and facilities could only lead to chaos and disorganized growth. Therefore, the Congress adopted only the first three recommendations of the President's Commission on Heart Disease, Cancer, and Stroke, leading to the law now known as "Title IX--Education, Research, Training, and Demonstrations in the Fields of Heart Disease, Cancer, Stroke, and Related diseases." The purpose of this act being:

- a. Through grants, to encourage and assist in the establishment of regional cooperative arrangements among medical school, research institutions, and hospitals for research and training (including continuing education) and for related demonstrations of patient care in the fields of heart disease, cancer, stroke and related diseases;
- b. To afford the medical profession and the medical institutions of the Nation, through such cooperative arrangements, the opportunity of making available to their patients the latest advances in the diagnosis and treatment of these diseases; and
- c. By these means, to improve generally the

health manpower and facilities available to the Nation, and to accomplish these ends without interfering with the patterns, or the methods of financing, of patient care of hospitals, and in cooperation with practicing physicians, medical center officials, hospital administrators, and representatives from appropriate voluntary health agencies.

What is the meaning of this act? First of all, funds will be made available to assist the medical community in planning, to conduct studies and later to operate pilot projects leading to the establishment of regional medical programs. We must look at and establish exactly what we are doing now in order to build upon this firm base for medicine of the future. It entails the development of an advisory council representative of the region involved to include representative of the practicing physician, medical center officials, hospital administrators, appropriate medical societies, voluntary health agencies and representatives of other agencies concerned with the public health. This council will coordinate the study on behalf of various agencies and cooperative committees of the essential elements of the practice of medicine within the involved communities, establish the relationship between various communities within the region, and define the communication networks necessary for the continued practice of optimal medicine. Undoubtedly this can be improved, and with the establishment of this basic information, the communication networks and relationships between the various elements of the practicing community can be defined and efficiently amplified for the future. Special emphasis must be placed on the three diseases and their related counterparts named in the law, but the basic mandate clearly defines the major goal of regional organization which in the long run can be applicable to the general insurance and provision for the health profile of the nation.

Several examples are available to define the possible outcomes of such deliberations on the part of the regional group. However, only the deductions arrived at through systematic planning can be valid for any given region, and therefore,



this groundwork must be accomplished before implementation can be systematically recommended. The community must define its needs, the region must define its interrelationships, and the program must define its resources and future needs. Important to the field of education for the future, including the junior colleges and four-year colleges, is the definition of those elements within the practice of medicine which can be amplified at the pre-professional level. Support for allied medical professional training is being seriously considered during the last half of the 89th Congress. The definition which can be acquired through such planning introspection will form the guidelines for the institution of new educational programs, further advancement in the area of communication networks, continuing education, and optimal patient care. The horizon is visible. The question is, can we as a medical community look

to this horizon for insight?

In summary, there is no question that through the actions of Congress, the wherewithal to require adequate medical care is being provided on a step-wide basis through the enactment of Medicare. The question that still remains is whether medicine, through internal cooperation, continuing education, and collective guidance can pick up the ball and propagate this medical system which now provides the best medical care available in the world today for those in the expanding future.

#### **The Charge:**

In conclusion, I am reminded of a quote from the French Revolution which I believe is extremely apropos to this period in which we find ourselves: "I must hurry, because there goes my people and I'm their leader."

# ELECTIVE INDUCTION OF LABOR

RALPH C. BENSON, M.D.

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"Baby by appointment" is an appealing concept but is fraught with unexpected hazards for mother and fetus. Indicated induction of labor for abnormal pregnancy such as diabetes or isoimmunization may also endanger the mother and her offspring. Nevertheless, this type of "forced labor" is a calculated risk and is, in effect, a "rescue" procedure. In contrast, elective induction is often for convenience or a frivolous social reason.

In hospitals across the United States the incidence of induction for all reasons runs between five and fifty per cent. Obviously, this in many cases borders on "meddlesome midwifery". The rising cesarean section rate and increased maternal morbidity and fetal mortality and morbidity is the reason for a reappraisal of induction--particularly the elective type.

Our experience, and that of others, indicates that one of the most serious problems for the fetus with induced labor relates to titanic uterine contractions and fetal hypoxia with oxytocin or sparteine sulfate. Fetal trauma may follow instrumental delivery in cases of desultory induced labor. Prolapse of the cord and prematurity are also related to forced labor. Many instances of brain damage, as revealed by mental retardation and cerebral palsy are ascribable to induction.

So far as the mother is concerned, anxiety, failure of induction, prolonged or tumultuous labor, rupture of the uterus, infection, postpartum hemorrhage and hypofibrinogenemia are often completely avoidable because the induction was not medically justified.

Sparteine sulfate is now known to be too capricious and dangerous a drug to use for induction of labor. There is no reason to use it and, actually, intramuscular injection of an oxytocic is a most hazardous route of administration.

The surest way to induce labor is simply rupture the membranes; the next best is the employment of dilute intravenous oxytocin as a drip. Assuming a proper indication for induction of labor, it is important to know which patient will and which will not go into labor in a reasonable time. The oxytocin sensitivity test has been shown to be very accurate in prediction of likely labor, within one week of term. In order to perform this test, 5 units (1/2 ml.) of oxytocin solution from the usual ampule is diluted in 200 cc of water. This yields a 0.25 unit per cc of active drug. If one injects one cc of this material intravenously into a patient lying supine and well-relaxed, it is possible for the physician to palpate a contraction which will occur within several minutes after injection of the medication--if she is ready for induction and labor. It is possible to repeat the injection after 5-10 minutes up to a total dose of 0.1 unit to make certain of the patient's reactivity. The routine is well-documented in the references appended.

This medication will rarely put the patient into labor but if uterine contractions are evoked, the failure rate for prompt labor with proper procedure will be very low indeed. Actually, if the membranes are ruptured in the case of patients who are "sensitive" to oxytocin, more than 90% will fail to go into labor within a 24 hour period. The lag time after rupture of the membranes in oxytocin sensitive patients will be about seven hours. On the other hand, if the patient is not sensitive by this test, the lag time may be as long as 24-36 hours.

If the patient is receiving oxytocin for induction or stimulation of labor, it is imperative for the doctor to be in the hospital--preferably at the patient's bedside. Oxygen should be at hand



together with ether. The cesarean section operating room and the nursing staff should be on a stand-by basis in case of difficulty, specifically rupture of the uterus, abruptio placentae, prolapsed cord or fetal distress.

With simple rupture of the membranes, especially in patients who are oxytocin sensitive, it is not imperative for the physician to remain in the hospital because he may return when the patient is in labor. Most gravida will not require oxytocin at all and will progress in good labor to deliver in good time, assuming normal fetopelvic relationships.

With an accurate history, the oxytocin test and complete examination and mensuration of the

patient, the physician can determine her nearness to term and likelihood of labor ensuing without extended delay. The oxytocin test and simple rupture of the membranes should reduce the need for cesarean section, operative intervention and will minimize the incidence of maternal, fetal and neonatal complications of labor and delivery.

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# USE OF DEVIL'S CLUB IN SOUTHEAST ALASKA

JAMES W. JUSTICE, M.D.

## 1. The Plant

Devil's Club is the common name for *Fatsia horrida*, (*Oplopanax horrideum*, *Echinopanax horridum*). The Tlingit call it "suxt". The family is Ginseng or Araliaceae. Other plants in the same family are English Ivy and Virginia Sarsaparilla. It is a flowering shrub that grows abundantly in the rain forests of S.E. Alaska and British Columbia. Stalks may be as large as 1½ inches in diameter, reach a height of eight feet, and are covered with sharp spines which are extremely irritating upon contact with susceptibles. One botanist stated the plant was hard to find and difficult to handle in the state of Washington.<sup>5</sup>

## 2. Ancient and Present Uses:

Ever since the almost forgotten era of the unrecorded past when a Tlingit of the Kake tribe observed two bears attempting to soothe their battle wounds by chewing devil's club root, the use of this plant has been extensive from Yakutat, Alaska, to Neah Bay, Washington. Aside from medical purposes, the devil's club extract was used during the neophyte shaman's purification rites as the only nourishment for weeks.<sup>1</sup> The whole stalk, complete with thorns, was used for whipping suspected practitioners of witchcraft.<sup>2</sup> Before a whale or a seal hunting expedition the hunters bathed their bodies in the extract.<sup>3</sup> The dried bark was mixed with red paint as a love charm.<sup>4</sup> The stalk was whittled and hung on a fish line as a lure.<sup>3</sup>

Ancient medicinal uses, which are probably not practiced now, included: body perfume; baby talc; emetic; regulation of puerperal menstruation; lactation suppressant, and for menstrual cramps.<sup>5</sup>

The present common medicinal uses are, for the most part, extensions of ancient practices. The following information was collected from interviews with Indians in the hospital and in the field during 1963 to 1965. Tlingit and Haida people make an infusion of bark or of the roots, after

removing the hairy spines, and drink it for: general strength, colds, chest pain following a cold, arthritis, black eyes, gall stones, stomach ulcers, constipation. Tuberculosis was recently thought to respond to the extract, but few people refuse hospitalization today. However, two patients in Kake, recently released from the hospital with arrested tuberculosis, consume daily portions.

Another ancient preparation in common use is made from the raw inner bark. The stalk is chewed and spit directly upon open wounds as an emergency analgesic measure. The bark may be laid in strips, inner side against the skin, to reduce the pain and swelling from a fracture.

The dried, pulverized inner bark or roots are mixed with pitch from red cedar or spruce and applied directly to small abrasions of the skin. Today many Tlingit fishing boats carry an ample supply. The pitch hardens and protects the wound from constant immersion. It was reported that the pulverized inner bark is taken with olive or corn oil by the teaspoon for pain relief. It is interesting that on the other side of the continent, the Cherokee people used another member of the Ginseng family in the same way, for the same purposes.<sup>6</sup>

The most common method of preparing the extract today is to fill a three gallon pot to the brim with either dried roots or stems, or both. Add water to the brim. The contents are maintained just below the boiling point for three or four hours. The extract is next filtered, cooled, and stored in air tight glass bottles. The plant can be used at any time of the year, but the Tlingit believe it is "strongest" in the spring. The term "**strongest**" was not clarified by the informants.

The Haida like to add mountain clover roots or Hudson Bay Tea leaves to the brew. The usual daily dose is ⅓ or ½ a glass.

Each family has some variations to the above method. Most of the author's informants learned



of the drug from their mothers. The method was seldom passed horizontally within the same generation. Many young persons who were asked about the plant had only vaguely heard of it.

In the past, devil's club was a "non-prescription" or family remedy distinct from the special brews prepared only by the shaman. Dr. Blaschke, a physician in Sitka in 1836, reported 25 plants used by the Tlingits for medicine.<sup>7</sup> Apparently, devil's club is the only member of this pharmacopia to survive in common use today.

### 3. Pharmacology

The extract has potent hypoglycemic properties. In 1938, a Prince Rupert physician reported:

"Our attention was brought to this material through the examination by one of us of a surgical patient who on hospitalization, developed marked symptoms of diabetes. This person, it was learned, had kept in apparent good health for several years by oral doses of an infusion of this root bark, and is in fact still leading a normal life with the aid of this infusion."<sup>8</sup>

observed after repeated tests. Results on humans have never been reported.

Informants who regularly drink the extract report that upon starting to take the brew, one may have diarrhea and feel very weak. Greater weakness is experienced if alcoholic beverages are taken concurrently.

Two persons agreed to have glucose tolerance tests before and after taking the extract. One hundred grams of glucose in 250 ml. of water was given to a 72 year old Indian woman and a 32 year Caucasian man after 12 hours fast. The next day after a 12 hour fast the same dose of glucose was given plus 1.4 cc per lb and 1.6 cc/lb of devil's club extract, respectively. Blood glucose levels were determined by the Nelson-Somogyi method at the Mt. Edgecumbe hospital laboratory. The Indian woman was regularly drinking the extract prior to the tests. The Caucasian male had never taken the extract before. The results are below:

PATIENT	BLOOD GLUCOSE MGMS PER 100 CC.			
	FASTING	1 HR.	2 HR.	3 HR.
1. Indian Female				
1. Without extract	90	187	128	50
2. With extract	69	202	132	88
2. Caucasian Male				
1. With extract	85	112 at 1½ hrs.		82
2. Without extract	80	83	85	83

He and associates prepared the extract and experimented with Belgium hares. A profound, hypoglycemic effect was repeatedly produced when a dose of 0.1 to 0.5 cc per pound was used, either orally or intramuscularly. Blood glucose levels were erratic with higher doses and no effect from lower levels. No effect was noted if greens were eliminated from the rabbit's diet.

The hypoglycemic effect was more pronounced when an acetone precipitate was given. The acetone filtrate produced a moderate hyperglycemia.

No toxic effects were proven, but test rabbits had more fatty degeneration of the liver than control animals. No increased tolerance was

The second subject experienced diarrhea plus the effects of hypoglycemia. These results show variability of reactions, but do tend to confirm the animal experiments in the Caucasian subject. The use of this drug to enhance the ability of the shaman to enter his trance-like state may have been related to the hypoglycemic effect. This action is apparently unknown among the author's informants. The legend of the Shaman's increased strength after one week of only the extract for food, may be related to increasing tolerance to the hypoglycemic effects. The medical literature contains only one other reference to the pharmacology of devil's club. In 1955 Graham and Noble reported that the dried roots and stalks contained a drug that inhibited the effects of

pregnant mare's serum upon the growth of white rat's ovaries. Control rat's ovaries weighed more than eight times the test animals who received both 100 I.U. of P.M.S. and 40 mgms of dried plant extract.<sup>9</sup>

It is conjectural whether the ancient reported effect on menstrual and lactation problems was real or imagined.

Electrolyte studies of a dilution in common use performed at Mt. Edgecumbe showed:

ELEMENT	DEVIL'S CLUB	CANNED ORANGE JUICE
Sodium	40 mEq/1	0.02 mEq/1
Potassium	50 mEq/1	48.8 mEq/1
Calcium	2.0 mgms/100 g.	10.0 mgms/100 g.

An exhaustive search for further references in the scientific literature produced only one additional article in a Russian chemical journal. "Tincture echinopanax is for asthenic conditions and hypotony"<sup>10</sup>

4. Some examples of use in Alaska Villages today:

The informants were from every predominant-ly Indian village in Southeast Alaska: Yakutat, Hoonah, Kake, Klawock, Hydaburg, and Metlakatla. All three indigenous tribes were represented: Tlingit, Haida and Tsimpsian.

Most of the information about the preparation and use of the extract came from Yakutat, a Tlingit village. A sample of the extract prepared there was used in the glucose tolerance tests.

A total of 12 persons out of a population of 220 admitted taking the extract in May 1965. These were persons known personally to the writer. Many others shyly declined to answer.

The Chief of the tribe came to clinic with a red, tender, swollen fifth finger that appeared suddenly one evening. The prescribed treatment of aspirin, elevation, and heat did not relieve symptoms. One glass of extract, taken after the physician left, relieved the symptoms completely in eight hours. One month later, the finger was re-examined and was completely normal. Blood studies at this time were normal for latex fixation and uric acid levels. The Chief said he didn't believe it would work and was pleasantly surprised.

Another patient with advanced Rheumatoid Arthritis and ankylosis of most of her small joints,

reported no benefit from the extract.  
A fifty-four year old woman with Hodgkins disease regularly takes the extract. She was also treated at the Mt. Edgecumbe Hospital with cytoxan, prednisolone, and excision of the localized mass in the cervical region.

Four teenagers have used the dried inner bark laid directly into a tooth cavity and stated they experienced prompt pain relief.

The adult males reported the application of

stalk strips to axe wounds received while hunting. They stated the pain was sufficiently relieved for them to continue on the trail until they came to medical attention.

This writer has observed one male patient with metastatic adenocarcinoma who was discharged after resection of three ribs, but without identification of the primary site. He was given a few months' prognosis and a terminal supply of morphine. Three years later, he had regained his health and strength after extensive treatment with devil's club extract and was re-admitted for withdrawal of narcotics.

Several others admitted taking it as a general tonic.

5.Conclusions:

Although devil's club has been used for generations for a variety of ills among the Indians in Southeast Alaska, it is currently enjoying a revival along with other aspects of Tlingit culture. Some teenagers are being introduced to its effect for the first time. Adults over 50 years old are generally well-acquainted with the use and manufacture of the extract.

Currently, some Indians believe devil's club is effective against cancer.

It was difficult to refute this very visible evidence of the efficacy of devil's club when talking to the Yakutat Health Committee. Cancer control programs may need to overcome this new obstacle to be effective in these isolated



Indian Communities. This village was the only one to turn down a female cancer control program.

For the brief published studies of this drug, further exploration would seem to be of value. Present knowledge of its effects should caution physicians to instruct their patients against using the drug if they suffer from diabetes, cardiac, or renal disorders. Effects on the human liver are not known.

Does devil's club have any value? Well, if nothing else, money. A California herb Company, for reasons unknown, has offered ten dollars per pound of devil's club's roots. Whoever their customers are, they are not Alaskan Indians!

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# UTILIZATION REVIEW

The following editorial appeared in the April 1966 issue of OSMA Journal, published by the Oklahoma State Medical Association. It was prepared by Walter E. Brown, M.D., Tulsa, Oklahoma, and is re-printed by permission.

PUBLIC LAW 89-97, Title 18, provides in-patient hospital services for up to 90 days for eligible recipients and is quite specific in the definition of a hospital under paragraph (e) of Part C, Sec. 1861. Under paragraph (6) as a sub-section of (e), it is required that the hospital have a "hospital utilization review plan which meets the requirements of sub-section (k)." A description and definition of requirements for the utilization review program is found under sub-section (k) on page 33 of the Law as printed by the U.S. Government Printing Office.

Although the general impression created by the press releases across the country in regard to utilization review is that this is a necessary hospital function due to overcrowding of hospitals, with the intent of encouraging dismissal of patients as soon as possible after a spell of illness, it also applies to hospitals where there is no overcrowding at the present time. This holds not only for some smaller hospitals in Oklahoma but for some of our larger metropolitan hospitals as well.

It is the opinion of Mr. Arthur Hess, the Director of the Bureau of Health Insurance of the Social Security Administration, that doctors were moving in the direction of utilization review committees long before the Medicare Law (Public Law 89-97) came into existence. Utilization review, by definition, provides "for the review on a sample or other basis of admissions to the institution, the duration of stays therein, **and the professional services** including drugs and biologicals furnished, (a) **with respect to the medical necessity** of the services, and (b) for the purpose of promoting the most efficient use of available health facilities and services". Thus it is seen that the purpose of utilization review goes far beyond the mechanics of encouraging and actually promoting shorter hospital stays. Section (k) suggests "such review to be made by a staff committee of the institution composed of two or more physicians with or with-

out participation of other professional personnel" as the first choice, and if this committee is to function as indicated to determine "the medical necessity of the services," then utilization review becomes in fact a Professional Audit. If the Utilization Review Committee finds that continued hospital care is not medically necessary, then the Social Security funds are relieved of the responsibility for further payment of this particular case being considered. As the plan is set up now, it is the responsibility of physicians to make the decision and the physician's right to exercise his judgment is clearly spelled out.

It is apparent then that the utilization review plan works exactly the same in the hospital with adequate beds available as in the overcrowded institution. Recognizing that there may be institutions where a staff committee composed of two or more physicians cannot be set up, the law provides an alternative whereby "a group outside the institution which is similarly composed and which is established by the local medical society and some or all of the hospitals and extended care facilities in the locality" may be set up. If the hospital cannot organize the committee from its own staff, in other words, then the local medical society is suggested as the responsible party. Every effort seems to have been made to leave the utilization review organization and function up to physicians themselves.

However, there seems to be some suspicion of the plan, and a half page of space in the **AMA News**, of February 7, 1966 is devoted to the remarks of one Parker K. Hughes, M.D., President of the Polk County, Iowa, Medical Society, in which he states in part, "Second, and in the area of most concern is that it is now, we are told, up to the doctors to police the utilization of the program. In other words, even though we opposed the law, it is now a fact and it is up to us to prevent abuses." Doctor Hughes then continues with amazingly inept conclusion ". . . it will be a



very difficult strain on patient-doctor relationships to walk in and tell your patient that although they may feel they need further hospitalization, the Medicare law and the local committee have said they must go home." It simply cannot be assumed that utilization committees will run roughshod over doctors' handling of their own cases. The truth is that these committees review the case with the doctor concerned and their decision cannot be arbitrary. The committee cannot force a patient's dismissal. The maximum penalty from an adverse decision by the Utilization Review Committee would be stoppage of payments by the Social Security Administration for the spell of illness, and then only after a four-day grace period. Actually, it may be the one saving

grace of the entire legislation that could appeal to physicians, namely that they are asked to man the Utilization Review Committees and make the decisions as doctors, not as government appointees or salaried bureau officials. As the **New England Journal of Medicine**<sup>3</sup> states editorially in the issue of January 27, 1966, "Medicare may stimulate the growth of utilization review mechanisms, but it makes no demands on the medical community, in terms of professional goals, which its members have not already made of themselves and as a profession."—**Walter E. Brown, M.D.**.....□

1. The AMA News, Feb. 1, 1966, pp. 4
2. P.L. 89-97 Sec. 1814(6).
3. The New England J. Med., Vol. 274, No. 4, pp. 221-222, Jan. 27, 1966.

## THE MONTH IN WASHINGTON

Summary of Washington news prepared by the Washington Office of the American Medical Association.

Washington, D.C. -- Administration officials say that the doctor-patient relationship should not be impaired under medicare.

Dr. Philip R. Lee, assistant secretary of health education and welfare for health and scientific affairs, said in an interview that federal officials, in drafting medicare regulations, had been doing their utmost to insure that the traditional doctor-patient relationship is preserved.

"The guidelines for the medicare program were developed with the close cooperation of so many physicians and other people in the health care field that this will provide the best assurance for the physicians, for the government, for Congress and for the public that the implementation of medicare will not alter the fundamental and vital personal relationship between the doctor and the patient," Lee said. "This was clearly the intent of Congress."

Lee termed the cooperation of physicians and hospital officials in developing medicare guidelines as "extraordinary." He said he personally expects the doctor-patient relationship to improve under medicare because removal to a large extent of the financing problem will give a physician more leeway in ordering laboratory tests and sending a patient to a hospital.

"Our most important concern in implementing the medicare program is education," Lee said. "The education extends to the doctor, the patient and administrators of the program."

Lee's office published a brochure for patients

and another for doctors explaining what the medical insurance program does and doesn't do.

The Social Security Administration said that nine out of 10 of those 65 and over had enrolled in Plan B of medicare by the second signup deadline of midnight, May 31. The original deadline was extended for two months in an effort to get a reply from as many as possible of the 19.1 million aged persons eligible. More than 400,000 signed up during the two months, bringing the total to about 17.2 million. About one million said they didn't want Plan B coverage. Those who did not sign up this time will not have another opportunity until Oct. 1, 1967, and they then will have to pay at least 10 per cent higher premiums.

President Johnson invited about 200 physicians and hospital administrators to a White House meeting on June 15 "to examine problems that may arise and to discuss cooperative arrangements so that the (medicare) program will get off to a good start."

In addition to Johnson, speakers at the meeting included HEW Secretary John W. Gardner; HEW Undersecretary Wilburn J. Cohen; Lee; Surgeon General William H. Stewart; Social Security Commissioner Robert M. Ball, and Arthur E. Hess, director of medicare.

Social Security headquarters at Baltimore set up an around-the-clock medicare information service to help its district offices in responding to queries from, beneficiaries, physicians, hospital administrators and others.



## PRESIDENT'S PAGE

ROBERT H. SHULER, M.D.

*President Alaska State Medical Association*



Dr. Shuler

Three months ago I was worrying about the job of filling the "President's Page" in six issues of ALASKA MEDICINE. What to say? What kind of material? Anything worth saying?

Believe me, the past few months have furnished more ammunition than I will ever want. There's no need for padding the stark facts!

The cost of medical practice insurance is going up at an astounding rate in Alaska.

Federal Old Age Medicare is almost here, and many, many loose ends (frayed red tape) remain to be tucked in, by us.

Armed Forces Medicare seems to be stuck at 1957 levels, with little hope of any immediate change.

We **must** try to solve some of these problems as rapidly as possible.

Apparently a recent series of decisions of the Alaska Supreme Court and Superior Court has

had a negative influence on insurance rates in Alaska.

My review of available material on this case leaves the impression that most of the 9-year litigation was involved in many legal technicalities rather than specific medical technicalities, and that the final decision and settlement have cost the physician's insurance company much more because of time-consuming referrals between courts.

I cannot say that the Court's decisions were biased, or unfair. I still believe that our Courts and judges are conscientious and skilled and I certainly would not hesitate to place myself or family in the hands of those same jurists, should the need arise.

The main point, to me, is that the case arose out of a surgical complication which is recognized by all involved parties and jurists to be an unavoidable possible complication of this type of surgery, no matter how skilled or experienced the surgeon.

If we assume this is true, it emphasizes that which we all are aware of: **Not one day passes in the practice of the average physician without his actions and ministrations producing a situation which could set up a potential malpractice suit.** For example: the simple skin infection which turns into a fulminating septicemia overnight; or the routine examination of an OB patient which is followed, at any interval from a few minutes to a few days, by spontaneous abortion.

The only thing needed to turn the most normal sequel of any treatment or examination into a suit is a brew concocted of superstition, mistaken interpretation of coincidence, an over-anxious parent or spouse, plus mis-informed friends who are suit-conscious or perhaps anti-physician for some reason. Stir these with an attorney who is willing to accept an erroneously biased story in advising a client, and the pot boils over.

Usually the lid can be put on without burned hands, and I'm sure that many hundreds of



potential suits are squelched before they reach the stage where formal, legal accusations are made. (Please note, I **do** have a high opinion of the integrity of the legal profession in general.)

The fact remains, that all of us must pay for malpractice insurance, no matter how conscientious, careful or skillful we may be.

Isn't it a helluva note that, when personal friend Joe develops a totally unpredictable penicillin reaction, we don't dare treat the allergy without charge (the most normal impulse for all of us, I'm sure) because such free treatment might be interpreted by a court of law as implying responsibility for the original penicillin reaction.

### WHAT DO WE DO NOW?

We should try to correct the situation regarding malpractice suits. Other states have led the way, we can follow.

My proposals:

1. Be willing to work with attorneys and other physicians for the best interests of the patient (client).

2. Implement our Legal-Medical Committee's authority to really police untenable and unscrupulous actions by both professions.

3. Present the public with the true picture, i.e. that a **very few** people, (Attorneys, physicians and patients), who settle "nuisance" suits out of court are responsible for 90% of medical practice suits and detrimental publicity.

4. Make the public and all government agencies aware that our fees must go up proportionately to increases in insurance cost, and will continue to do so in the future.

5. Quit presenting ourselves to the public as so perfect we can't be allowed to make a human error; and educate the public to understand that, while we try our best, and have the individual patient's best interests in mind, there is no guarantee to **anyone** in **any** case that a complete cure, a perfect scar or an unblemished baby is always possible.

**Perhaps** we should print a placard to be posted in every waiting room "As your physician, I will try with my best skill and knowledge to make you healthier, to allay your depredations upon your own body, and to prescribe the best medicines or surgery I can order for your welfare. But I **can-**

**not guarantee** results in "curing" even a common cold, I can only try to do my best in every case. When every patient can prove that **he** has taken each prescription faithfully without exception, followed every bit of advice, dieted as advised, and solved every emotional problem produced by his own actions, then utopia will have arrived and there will no longer be any need for professional practice insurance. Meanwhile, your physician pledges himself to continue his best efforts in your behalf. P.S. Because of a recent increase in medical practice insurance costs, my fees have increased by.....per visit."

(Okay, I heard you saying "So what if one of the guys is negligent, and gets nicked for his own carelessness -- that shouldn't be any skin off my nose." Brother, believe me, unless we **are** willing to coordinate and cooperate, it can and **will** be skin off your nose, to the tune of about 1 or 2 **thousand** skins per year!!!!)

That's why I plead that you fill out the questionnaire we plan to send out soon after you get this issue. We must have figures to present to the insurance agencies if we can have any hope of a reasonable insurance rate. No names needed, but please send in your report, (we need 126 of 'em.) then we can talk from facts, not fancies. It's simple; we need to know how many dollars have been spent by Alaska physicians in insurance fees, and how many dollars paid out by those companies (and physicians) to settle cases **in** and **out** of Court. Insurance companies are profit-making groups -- they need to know that their risk is worth the shareholders' investment, on a **statistical basis only**. Do shareholders care who was unfair to whom and for why? No. They want, and are entitled to, honest, basic dividends on their investments.

Now, the dollars spent vs. dollars earned factor can be influenced by more than one type of effort. We also must cooperate with all efforts between the legal and medical professions to eliminate out of-court "nuisance" settlements, which, no matter how convenient, cost the insurance companies **money**.

I propose that we set up a receiving station by both societies where facts may be assessed without prejudice by both professions. Thus, a physician who feels that he has been victimized by a threatened suit which the plaintiff would lose in court, but which is initiated because of the well-known reluctance of any physician to any publicity of this sort, may report the facts

without revealing names of any principals except the attorney, to the Medico-Legal Committee. Conversely, any attorney may report to the Medico-Legal Committee physicians whose actions invite suits, or those who refuse to cooperate fairly, or who insist on private settlement of cases which could be brought to court, because the physician is unwilling to face publicity even though he may be entirely blameless.

Results: Perhaps a few frequent offenders can be warned, coached or given one-way tickets to a state where they will either be appreciated or won't be noticed. (If you haven't heard that story, ask me next convention time.)

This is only a tentative outline for action, but action **can** result in diminished insurance fees, and even better, in improvement in standards of medical practice and legal practice. Both groups are basically working **for** their clients, and both groups have compatible codes of ethics to use as guides for the integrity of the profession.

This may be a naive structure, **and it will take time** but -- we need positive efforts instead of condemnation of insurance companies and/or attorneys and/or physicians without **facts** to support our contentions.

Now don't feel slighted -- but I'm going to ask Mr. Vernon Walker, our Executive Secretary, to send these questionnaires to your business manager or secretary nurse -- I know how these things get done, and who're the kids that do 'em! This isn't just another questionnaire, it's a much needed service to **yourself**; and if our results are much at variance with those which the insurance companies have probably already compiled, we'll lose, and you and I will pay more, and more, and more.

We must be able to say "You guys collected so many hundred grand in a three-year period --- and paid out a few thousand -- what gives?"

Thanks, and please help, as "now" as you can. Then your Executive Secretary and officers can do their best.

#### MEDICARE IN A NUTSHELL:

We have just learned, as this issue of ALASKA MEDICINE goes to press, that Alaska is first to be given approval on a state-wide basis so far as Part A of the Medicare plan is concerned. This assurance was given to me from Doctor Browning following a meeting with the HEW representative of Social Security Administration on June 14. All hospitals in Alaska are "in" effective July 1 and this is the result of establishing Utilization Review Committees for each hospital in accordance with requirements set up by HEW. Larger hospitals will meet the requirement by setting up the Utilization Review Committee from within their own staffs. Smaller hospitals in communities with only one or two doctors will also meet the standards by endorsing the plan of forming the Committee with one other physician designated by ASMA to serve as consultant. This plan was not only approved by the HEW representative, but was commended. Prior to July 1, I will appoint one physician from each of four regions in the state to serve the smaller hospitals. Travel and per diem will be paid for the two to three committee meetings required each year. This is a reimbursable cost for the hospital.

Stay tuned for more in the months to follow . . . .



# ALASKA MEDICINE

Volume 8, Number 3

September, 1966

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# Alaska Medicine

Vol. 8, No. 3

September, 1966

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# ALASKA MEDICINE

*Official Journal of the Alaska State Medical Association*

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# A REVIEW OF LEGISLATION GOVERNING MEDICAL PRACTICE IN ALASKA

by

W. M. Whitehead, M. D. and John J. Dalton, M. D.  
Juneau, Alaska

The first law governing medical practice in Alaska was quite simple, consisting only of a man's conscience and public opinion. Official regulation began in 1909 when Congress enacted legislation which provided that the graduate of any legally chartered medical school which complied with the standards set forth by the Association of American Medical Colleges could be licensed by having his diploma recorded with the Clerk of the District Court of the judicial division in which the applicant proposed to practice. The law further provided licensure for anyone who had been in practice for the three years prior to enactment regardless of the applicant's previous formal training in medicine. No provision was made for verification of an applicant's credentials and in several instances they were found to be fraudulent after a license had been issued. During the four years, 1909-1913, about 150 physicians, many of whom were non-residents, were issued licenses to practice medicine and surgery in the Territory.

The First Territorial Legislature, meeting in 1913, established the Board of Medical Examiners. The members were appointed by the Governor for an indefinite term and did not require legislative confirmation; they also served without pay. The first Board appointed by Hon. J. F. A. Strong were as follows: W. G. Cassels, M. D., Fairbanks; Harry C. DeVighne, M. D., Juneau; Isaac H. Moore, M. D., Ruby; J. H. Mustard, M. D., Nome; John L. Meyers, M. D., Ketchikan; Joseph H. Romig, M. D., Seward; J. M. Sloan, M. D., Nome; and David H. Sleem, M. D., Valdez.

At the first regular meeting of the Board held in Juneau July 8, 1913, Dr. I.H. Moore of Ruby was elected president and Dr. Harry DeVighne of Juneau, secretary-treasurer.\* The death of Dr. D. H. Sleem of Valdez and emigration of Dr. W. G. Cassels of Fairbanks created two vacancies within the next six months. These were filled by Dr. Charles Winans, Valdez, and Dr. J. A. Sutherland, Fairbanks.

The function of the Board was to examine the credentials of a prospective licensee and, if properly accredited, issue him a temporary permit. A temporary permit was good until the next regular meeting of the Board (January or July) at which time the applicant had to present himself for examination in those subjects prescribed by law.

In creating the Board, the Legislature unfortunately failed to appropriate money for its operation. An initial fund of \$145.00 was collected for the purchase of license blanks, stationery, etc, by collecting a fee of \$5.00 from all physicians practicing in the Territory and eligible for licensure under the new law. Expenses of Board meetings were met from the candidates' examination fee of \$25.00.

The second meeting of the Board was also held at Juneau in January of 1914. Fifty physicians who had been licensed by their respective Clerk of the Court or who had practiced in the Territory the required three years were granted licenses without examination.

Ballance, W. P. — Craig  
Baines, M. D. — Wilmington, Del.  
Baughman, J. A. — Seward  
Benawa, W. G. — Douglas  
Boyle, W. G. — Valdez  
Brown, Bruce H. — Nulato  
Campbell, E. O. — Craig  
Carmichael, A. B. — Seattle  
Craig, Harold M. — Haines  
Danforth, Clarence E. — Chatanika  
Dawes, L. P. — Wrangell  
DeVighne, Harry C. — Juneau  
Dickinson, Beatrice P. — Ketchikan  
Dickinson, George L. — Ketchikan  
Ellis, R. V. — Comet  
Evans, Melville J. — Fairbanks  
French, L. H. — Dillingham  
Gabie, W. G. — Skagway  
Goddard, F. L. — Sitka  
Green, W. F. — Tacotna  
Hall, Mahlon F. — Fairbanks  
Haxby, Thomas A. — LaTouche

\*Since its inception 53 years ago there have only been three men as Secretary-Treasurer of the Board: Dr. Harry DeVighne 1914-1932; Dr. W. W. Council, Juneau, 1932-1943 and Dr. W. M. Whitehead 1943-present.

Kyvig, K. A. — Knick  
 Lamb, Frank W. — Nulato  
 Midford, G. F. — Döuglas  
 Miller, Thatcher — Ketchikan  
 Mustard, John H. — Nome  
 Myers, Ben. L. — Ketchikan  
 Meyers, John L. — Ketchikan  
 Palmer, A. J. — Porcupine  
 Payzant, James — Kennicott  
 Piperno, R. — Hector  
 Pryor, Lee — Petersburg  
 Robinson, E. B. — Nushagak  
 Romig, Joseph H. — Seward  
 Sargeant, Albert R. — Douglas  
 Schaleben, Henry O. — Seward  
 Schrock, E. B. — Kennicott  
 Schussler, O. F. — Nome  
 Shurick, S. C. — Wrangell  
 Silverman, Joseph A. — Kodiak  
 Simpson, James K. — Juneau  
 Skoonberg, A. W. — San Francisco

Sleem, David H. — Seward  
 Sloan, John M. — Nome  
 Smith, L. V. — LaTouche  
 Story, Henry G. — Ketchikan  
 Sutherland, J. A. — Valdez  
 Vance, Joseph A. — Cordova  
 Winans, Charles A. — Valdez

These licenses were un-numbered as they were issued by the Clerk of the Court in various localities throughout the Territory. Official numbering began after this second meeting of the Board. Less than 100 licenses were issued over the next twenty years. As of this writing, the last issued license, No. 547, was obtained by Dr. George H. Logenbaugh, Chief of Surgery, USPHS Hospital, Mt. Edgecumbe.

We thought it would be of interest to record the names to whom the first twenty licenses were issued. For reasons unknown there were two number 2's, and numbers 11, 17, and 18, are missing.

Number	Place Issued	Date	Name	Residence in 1932
1	Juneau	1914	W. A. Myers	Kansas City, Mo.
2	Juneau	1914	H. E. Auringer	Addison, N.Y.
2	Juneau	1914	Wm. Pallisler	New York
3	Juneau	1914	E. O. Campbell	Tonasket, Wash.
4	Juneau	1914	E. M. Bevis	Goleta, Calif.
5	Juneau	1914	Lorenzo Smith	LaTouche, Alaska
6	Seward	1914	James G. Anderson	Petaluma, Calif.
7	Seward	1915	Ezra Brooks	Berkeley, Calif.
8	Fairbanks	1915	E. S. Reedy	Seattle, Wash.
9	Seward	1915	Herbert Stoughton	Malone, N.Y.
10	Juneau	1915	M. F. Spier	Unga, Alaska
11				
12	Juneau	1916	David H. More	Long Beach, Calif.
13	Juneau	1916	Lester C. Smith	Grass Creek, Wyo.
14	Fairbanks	1916	Lillian G. Stevenson	unknown
15	Juneau	1916	J. L. Bulkley, J.,	Richmond Hill, N.Y.
16	Juneau	1916	Douglas Brown	Rutland Heights, Mass.
17				
18				
19	Juneau	1916	Charles C. Benedict	Wipple, Arizona
20	Seward	1916	John Bradley Beeson	Wooster, Ohio



During the years that followed, the law was revised and amended as needed to clarify conflicting or ambiguous passages and more effectively meet the changing needs and desires of modern day medicine.

- 1917 a) An internship for one year in an accredited hospital or four years of active practice were added to the requirements for licensure.
- b) Standards for licensure by reciprocity were instituted and the fee set at \$25.00.
- 1921 a) The fee for reciprocal licensure was raised to \$100.00.
- b) The Legislature appropriated \$500.00 per biennium to fund the Board expenses. All monies collected were paid directly to the Territorial Treasurer.
- 1929 a) Membership representation was defined by law which allocated two members from the First Judicial District and one each from the other three Judicial Districts.
- b) Times for examination were changed from January and July to the first Tuesday in March and September. The Board has since changed its policy to the present system, i.e., examination at any time.
- 1931 An occupational tax of \$10.00 per annum was levied against all licentiates regardless of residence.
- 1946 Basic Science Certification was added to the requirements for licensure and a Board of Examiners in the Basic Science created. The five members appointed by the Governor serve four year terms without compensation. Unlike the Board of Medical Examiners, these appointments require legislative confirmation. Law decrees that the five members consist of a layman (and automatic chairman), two doctors of medicine, one doctor of chiropractic, and one doctor of osteopathy. The laymember is automatically chairman while the secretary-treasurer is elected by the members of the Board. Original members appointed by Governor Ernest Gruening were 1) Don Skuse, Juneau, Chairman; 2) Earl Al-

brecht, M. D., Juneau, Secretary-Treasurer; 3) A. S. Walkowski, M. D., Anchorage; 4) Howard Vance, D. O. Juneau; and 5) George Caldwell, D. C., Juneau.

The present Board, appointed by Governor Egan, consists of Ralph Wright, Juneau, Chairman; John J. Dalton, M. D., Juneau, Secretary-Treasurer; A. S. Walkowski, M. D., Anchorage; Richard Sutherland, D. O., Anchorage; and C. O., Risch, D. C., Anchorage.



William M. Whitehead, M. D.      John J. Dalton, M. D.  
Secretary-Treasurer,      Secretary-Treasurer, Board of  
Board of Medical Examiners      Examiners in Basic Sciences

- 1957 Physical Therapists were placed under jurisdiction of the Board of Medical Examiners.
- 1966 License to practice medicine and surgery by Doctors of Osteopathy was authorized by the 1966 Legislature. Practice in the state for one year prior to January 1, 1966, or successful completion of examinations in the Basic Sciences and before the Board of Medical Examiners are the requirements. Currently, two licenses have been authorized, both under the "grandfather clause."

The present Board of Medical Examiners appointed by Governor Egan, is composed of H. I. Akiyama, M. D., Juneau, President; W. M. Whitehead, M. D., Juneau, Secretary-Treasurer; Charles F. St. John, M. D., Anchorage; and Raymond D. Evans, M. D., Fairbanks.

#### Acknowledgements:

Tremendous assistance was given by Mrs. Dorothy Russell and Miss Marian Davis.

# A. A. G. P. CONTINUING EDUCATION PROGRAM

by

Royce H. Morgan, M. D.

The Alaska Chapter of A. A. G. P. is making a concerted effort to carry medical education to its members in the remote areas of our state. Few people are aware of the numerous problems associated with the vast distances, remoteness, and isolation that a state as large as ours poses. Our land mass alone is larger than the combined areas of the next three largest states (including Texas, of course). We are larger than the combined areas of the smallest 21 states, having more than 33,000 miles of shoreline. Our population numbers approximately 250,000 persons and our land mass more than 500,000 square miles. We have two square miles for each individual who lives here. Despite this vastness we have only 150 private physicians in our state.

Prior to the charter of the Alaska Chapter of A. A. G. P., in 1962, there were no category one courses offered in Alaska. All our members had to leave the state at least every three years to comply with the requirement of 50 hours of formal lectures every three years. Very few of our members could afford the time and expense of leaving their practice and traveling to the "lower 48" to comply with this requirement. Our state secretary and the national office realized this serious problem and continually made exceptions for us in the "far north bush country". Our education committee came alive after the Alaska chapter was formed. We were approved for lectures and courses already being held here. For example, the annual cardiac clinic, visiting consultants to the armed forces hospitals in Alaska, and the annual symposium sponsored by the Lederle Drug Company, were accepted as category one courses.

Our first attempt to take education programs out to the doctors over the state was in 1964. We had Doctor Howard Hopps, pathologist, from the Armed Forces Institute of Pathology as our speaker. He spoke first on Saturday at our annual convention in Ketchikan. Our state chapter of A. A. G. P. combines our annual meeting with the state

meeting of the Alaska State Medical Association. On Monday, Doctor Hopps spoke twice in Anchorage. On Tuesday the program got out into the bush country. Doctor Hopps visited with doctors at Seward and Seldovia and gave an outstanding presentation on forensic medicine, "Malady or Murder", at the Homer Hospital that evening. Wednesday, Doctor Hopps spoke at Kodiak where two A. A. G. P. members, Doctors Johnson and Keers, had invited the doctors from the Kodiak Naval Air Station as their guests. Thursday evening the program was held at the Faith Hospital in Glennallen where Doctors Pinneo and Scheider hold forth. Doctor Carl Sandburg had scheduled his vacation from the Sand Point Medical Clinic so he would be at the Faith Hospital this evening. Doctor Hopps discussed "Sudden Death in Children" and "Allergy and Antibodies". Friday night his tour concluded with a very interesting presentation on "The Etiology of Cancer" in Fairbanks. His presentation was followed by a stimulating question and answer period. The unanimous feeling of our members was that the entire effort had been an overwhelming success. In one short week Doctor Hopps had covered our entire state. For this meeting he had traveled a total of 12,500 miles, 3500 miles in Alaska alone. Doctor Hopps' meeting was made possible through a grant from the Eli Lilly Company. Most physicians feel that they get more from these "bush" meetings than with lectures at more formal meetings and conventions. This is true, probably because they are in the relaxed atmosphere of their own hospital or clinic. The audience is small and ideas are exchanged with more freedom. The audience feels free to interrupt and ask questions as they arise during a presentation. At times the announced topic has been abandoned with the consent of the speaker and audience so that a topic of more practical value to the general practitioner can be considered. This gives the doctor out on the "front line" of every day practice more practical help where he needs it, from the visiting specialist.

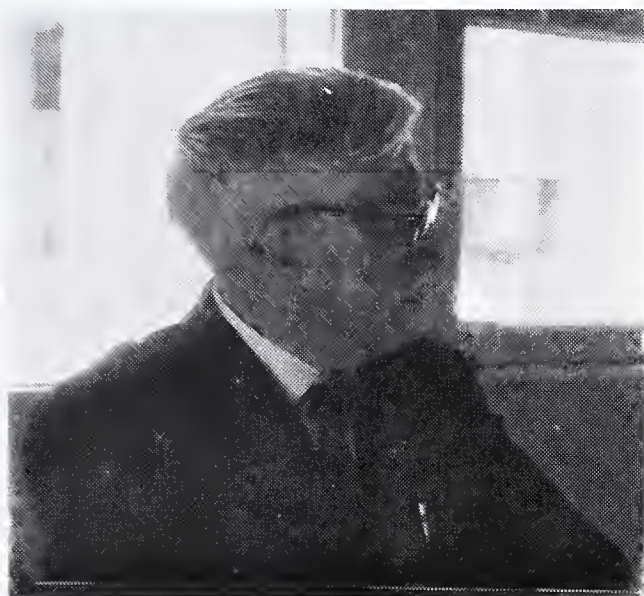


In April 1966 our program featured Doctor David M. Levy, a prominent child psychiatrist who practices in New York City. No, the Alaska Chapter of A. A. G. P. didn't bring him from New York to Alaska. We took advantage of the fact that he would be in Anchorage to consult with Doctor Karl Bowman, Director of the Division of Mental Health of the State of Alaska, and other doctors of the staff of Alaska's Psychiatric Institute concerning their opening of the new in-patient department of child psychiatry at A. P. I. We took him from Anchorage to Seward for a breakfast meeting with the staff of the Seward General Hospital. After the breakfast, which provided a perfect time to get acquainted, Doctor Levy showed a film illustrating mental health clinics in New York. Following the movie he spoke concerning "Recognizing the Problem Child". An interesting

question and answer period followed his lecture.

Following the Seward meeting, the program sped some 300 miles north for a luncheon and similar program at Glennallen. This meeting was held at the Faith Hospital which is operated by Central Alaska Missions. Although the program was primarily taken out to A. A. G. P. members, Doctor Schneider and Doctor Pinneo who staff the Faith Hospital, our attendance was considerably larger. In addition to Doctors Schneider and Pinneo, were five doctors from Anchorage, four of the hospital nurses, Reverend Vincent Joy who is Director of the Central Alaska Missions, Mr. Lastufka representing Pfizer Drug Company, and Mr. Moustakis of the Parke-Davis Company. A combined grant of these two companies made Doctor Levy's visit to Seward and Glennallen possible.

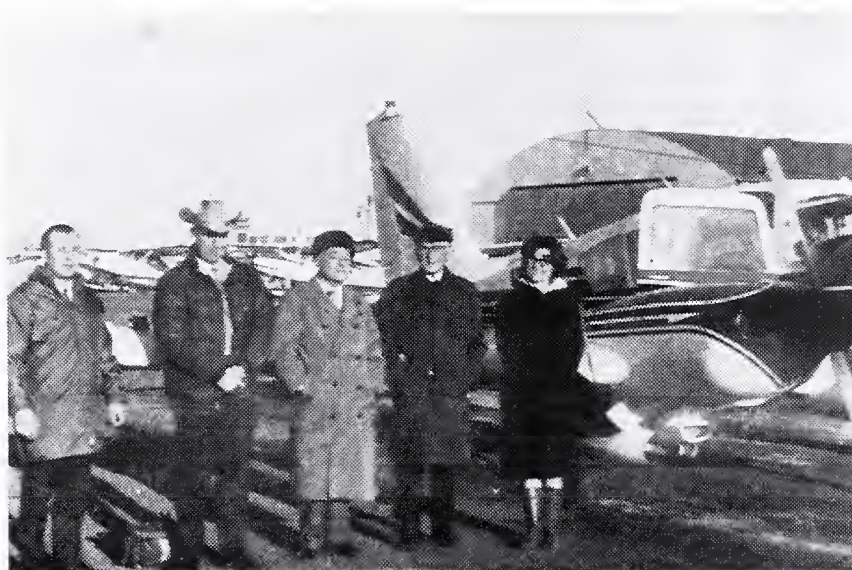
Just last month a tour of the state was made by



Dr. Bowman



Dr. Levy



A Flying Medical School





**Breakfast at Seward**



**Classroom at Faith Hospital**

a team of four physicians from the Virginia Mason Clinic in Seattle. They were Hugh Lawrence, M. D., chest and heart surgeon; Bill Steenrod, M. D., internist, specializing in metabolism and diabetes; John Huff, M. D., internist, specializing in hematology; John Allen, M. D., specializing in chest diseases and infection.

They met with doctors in Anchorage, Kodiak, Homer, Seward, Palmer, Glennallen, Fairbanks, Sitka, Ketchikan, and Juneau. The meetings were both formal and informal. At Anchorage, believe it or not, four formal lectures with slides, etc., were presented to an audience of thirty doctors in forty minutes. Did you ever hear of a ten minute formal lecture before? I never did, but I've seen it now. These doctors extended a real helping

hand in Alaska. In addition to the lectures, there were numerous consultations; Doctor von Hippel and Doctor Hood had Doctor Lawrence consult on a heart case, which they wound up giving him; at Homer, Doctor Huff consulted on a case of pernicious anemia; at Seward, Doctor Lawrence assisted Doctor Paul Isaak with surgery on a case of early diagnosed malignance; at Palmer, the team consulted with Doctor Walter Cunningham on a stubborn case of auricular fibrillation. In Glennallen, a case of diabetes in pregnancy was presented to Doctor Steenrod; at Fairbanks the group saw several cases, including a case of vascular insufficiency in the lower extremities in a young man. I understand that cases were also presented at Sitka and Ketchikan.



This trip was truly a blessing to Alaska physicians. We are grateful to the Mason Clinic for sending this fine team.

This past year we had 196 hours of Category 1 credit programs. We have many ideas for future programs, limited mostly by our own vision, initiative, time and strength to put them together. We are grateful to several drug companies who have joined us in our efforts to carry the latest medical ideas to doctors who are practicing medicine in the frontier areas of America. These pro-

grams have done much to bring general practitioners of our state closer together and give them a sense of being up to date and abreast of the latest medical ideas. In fact, several speakers have told me that the quality of physician they find practicing in Alaska is one who is energetic, well informed, and generally ahead of the physicians in several of the "lower 48 states". Perhaps the challenge of practicing here keeps us on our toes and demands that the physician be of above average quality.



Dr. Gentles listens



Virginia Mason Group at Seward

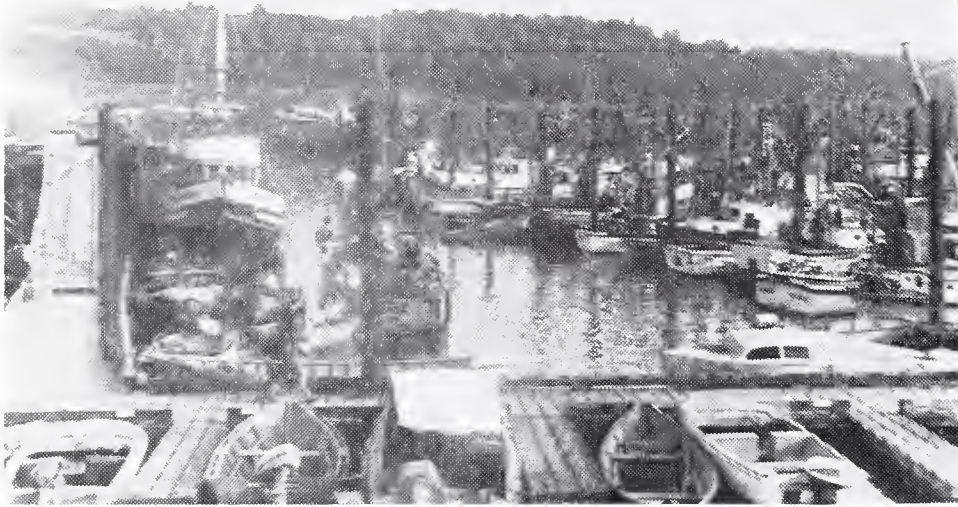
L to R — Royce Morgan, M. D.; Walter Cunningham, M. D.; William Steenrod, M. D.; John Allen, M. D.; John Huff, M. D.; and Hugh Lawrence, M. D.



Dr. Carolyn Brown



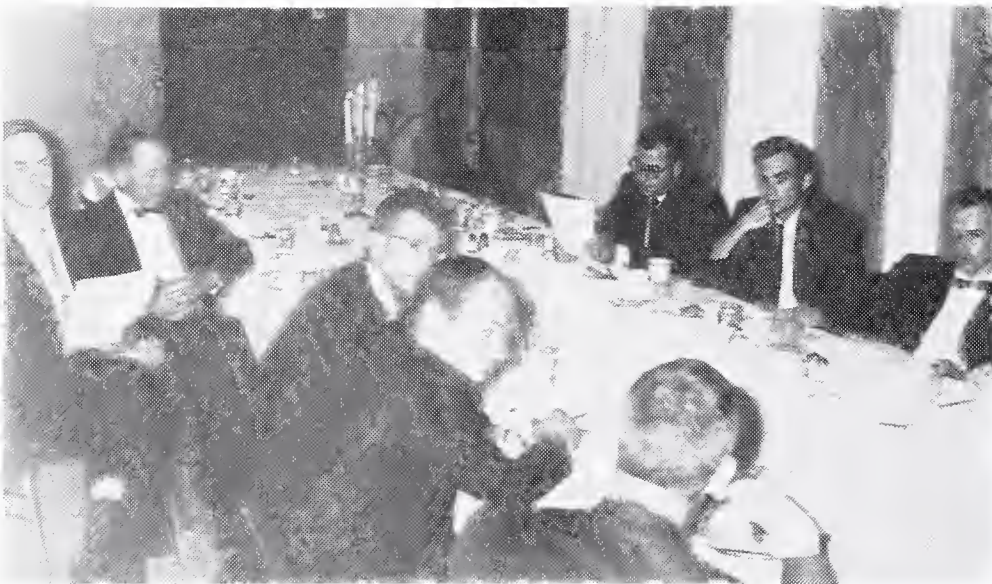




Kodiak Small Boat Harbor



Dr. Schneider and VM physicians at Faith Hospital



Left side of table: Charles T. Morrow, M.D.; Paul Haggland, M.D.; Doctor Worrell; Raymond Evans, M.D.; and Bill Steenrod. Right side: Ancel Earp, M.D., unidentified in center; and John Allen, M.D.



# SCOLIOSIS: Disease or Inheritance?

by

William J. Mills, Jr., M. D.

Scoliosis, the lateral curvature of the spine coupled in severe cases with rotation of the spine, is a more common entity than suspected.

For the past ten years the author has sought this condition whenever he examined children for other cause. Knowing of this interest in the problem, physicians in Anchorage, particularly local pediatricians, have referred asymptomatic children whose bent backs were discovered during the course of school examinations. This report is a prelude to a better documented study of children examined over this period of time with the problem of scoliosis and the methods used to treat them. Its purpose is to encourage a deliberate search for this back affliction by Alaskan physicians so that earlier treatment may be instituted in those afflicted.

Classically, scoliosis has been considered the result of tuberculosis of the spine, a consequence of poliomyelitis, a congenital deformity, or postural abnormality. Other causes include severe metabolic disturbances, and rare familial hereditary traits. In many instances no apparent etiology has been found. Previously, poliomyelitis was the most common offender. In adults a scoliotic curve was often ascribed to previous injury or disease. Salk and Sabin vaccine immunizations have now so reduced the incidence of paralytic polio that scoliosis from this cause has virtually disappeared. There remains, however, the residue cases clumped together under "idiopathic" scoliosis or those of unknown etiology.

The author ascribes to a school of thought that idiopathic scoliosis is in the main a hereditary disorder. That the familial nature of the disease has not been more striking he has credited to (1) failure of the physician to examine the parents of the child or vice versa during the course of an evaluation of scoliosis; (2) a failure to question carefully the parents of scoliotic children regarding a family history of backache or deformity; (3) a failure of physicians to note that in the general population (especially the "knit dress group") the depression of a shoulder and the elevation of the iliac crest or pelvis on the same

side is a common visual experience and is a superficial clue indicating a possible lateral curvature of the spine; (4) that although a physician may consider scoliosis and its resulting deformity a disease state, many women and some men feel that "every one is a little lopsided." (Women who have seamstresses or those who sew their own clothing often measure their torsos from axilla to iliac crest because the "lengths from axilla to crest may vary as much as a half inch to one and one-half inches; (5) physician failure to take into account that many children admitted for orthopedic evaluation to university centers, and federal or state supported children's orthopedic programs, are often taken to the evaluation by a third party such as a social worker, nurse or relative, so that the parents are not available for questioning about spinal deformities or for evaluation of their own backs; and (6) a common but whimsical notion held even by physicians, that scoliosis is due to exercise or lack of exercise, to carrying school books on one hip only, or to repetitive use of one group of muscles only.

## PLAN OF THE STUDY

(To be published in more detail later)

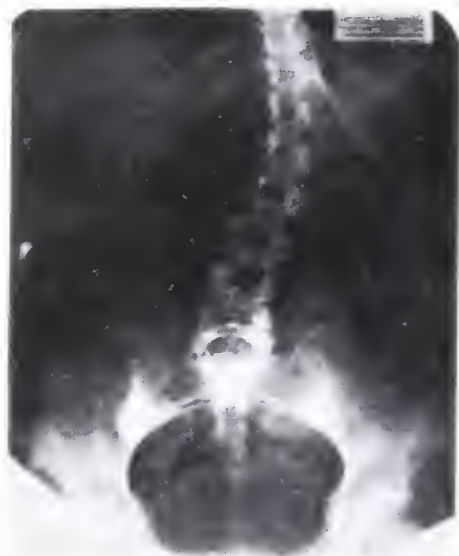
In an attempt to define family incidence of scoliosis all children referred for this problem were examined from the back, and the back actively and passively manipulated. General posture was noted, and shoulder and hip relations were examined. Leg lengths were routinely measured.

Lateral, standing, and prone position x-rays of the spine were obtained, and finally, pelvic x-rays were incorporated into the study. A vigorous attempt was made not only to examine the referred child, but the mother and if possible, the grandmother. X-rays of parents and grandparents were diligently sought. If possible, data about the great-grandparents was secured in each case.

A review of these x-rays demonstrated that it is fallacious to depend upon the measured length of the leg from the anterior superior spine to the medial malleolus. In scoliotic patients, often there

is measureable hemi-atrophy or hemihypertrophy of the ilium on one side or the other altering the width and height of that structure and in consequence apparently lengthening or shortening of the affected leg. This hyperplasia of the ala of the ilium is perhaps one of the earliest scoliotic signs. It was apparent in some cases as early as age two or three years. (Fig. 1 and 2)

**Figure No. 1**



**Adult with wide curve demonstrating hypoplasia of the right ilium.**

There is a suggestion in the preliminary evaluation of the children and their relations with scoliosis that in idiopathic scoliosis the problem is apparent in all generations. It appears to be more severe every other generation. Girls are more frequently affected than boys, the ratio often as high as ten to one, although this seems variable. A scoliotic involvement of the child, either boy or girl, appears more severe when both parents have a measurable curve, no matter how minute. X-ray confirmation of the clinical evidence of scoliosis was sought in every case, and required the presence of vertebral wedging. Clinically, the scoliotic child, caucasian or native, often showed evidence of hemi-atrophy of one mandible (facial asymmetry), and often a decrease in the circumference of calf or thigh, usually on the same side. Preliminary results show that the immediate relations of the affected children had similar scoliosis, but the curves found on examination were not necessarily concordant. (A child with a right dorsal left lumbar scoliosis often having a parent with a left dorsal right lumbar scoliosis.)

**Figure No. 2**



**Three year old child — no scoliosis, but iliac hypoplasia on the left side.**

Treatment is multifaceted and multidisciplined, and prolonged in time and expense. Great assistance to the program has been rendered by the Alaska Crippled Children's Treatment Center, the Elks' Visiting Therapist and by other physiotherapists, in private practice and associated with local hospitals. The emphasis in conservative treatment has been on exercises, supervised and encouraged both in a home gymnasium with the use of an overhead bar, special scoliotic exercises and finally, swimming. If follow-up demonstrated failure of conservative care, a Milwaukee Brace was usually applied. Progression of the curve despite the use of a brace was considered indication for an operative procedure and bone graft if the deformity was excessive.

## DISCUSSION

The principal early findings of this study are:

- (1) Scoliosis often goes unrecognized in the population of well people.

- (2) Scoliosis cannot be effectively treated and arrested if not sought and suspected, particularly in adolescent girls.

- (3) If an adult is found to have scoliosis, children in the same family must be watched for a similar problem.

- (4) By extension, a child under one's care for scoliosis may beget children similarly affected.

- (5) If the follow-up reveals that exercise has not arrested the scoliosis, a thoughtfully fitted Milwaukee Brace (with guard to protect front teeth and the temporal mandibular joint) is usually successful in preventing increasing deformity.

- (6) An active search should be made for scoliosis



in suspect families between the ages of eight to ten in girls, and thirteen to fifteen in boys. There are, of course, exceptions.

(7) All too frequently, scoliosis will be first brought to a physician's attention when it seems almost tragically advanced and the curvature catastrophic in degree. The parents will usually avow that the presence of this spinal curvature was not noticed six months or so ago. They will be shocked by the appearance of the x-ray and most upset by the treatment proposed and the prognosis offered. The author suspects that this sudden progression often noted during the early "teen" years is concealed by the natural onset of personal physical awareness and modesty in teenage children which denies the parents the opportunity to see them seminaked. Needless to say treatment is appropriate at any time, but is much more effective if instituted early.

#### **Suggestions For Physicians in Practice**

(1) If you find an adult with scoliosis, with or without back pain, make a point of examining his children.

(2) Remember that scoliosis is a common, not-rare entity, like back pain. Give a cursory look at your office nurse or secretary. Chances are good that one or the other may have scoliosis.

(3) Back away from the child and have a good look at his back from seven to ten feet. Before a lateral scoliosis curve is confirmed by x-ray, a child may have a visible depression of one shoulder or a prominently elevated ilium. An x-ray taken of the pelvis at this time may indicate a relative hyperplasia of the wing of the ilium on the side of the elevation. Although the reason for this is not known, it seems to be a valuable early diagnostic sign.

(4) In court, in litigation, or before the Industrial Board, remember that all scoliotic curves are not subsequent to back injury or disease. In general, an S-shaped curve with multiply wedged vertebral bodies accompanied by sclerotic facet articulations signals injury occurring before the age eighteen.

(5) Remember that scoliosis is hard to diagnose when the patient is supine, prone or well clothed. In children and teenagers it is helpful not only to survey the back upright, but to have the child bend forward and attempt to touch his toes, a persisting scoliotic curve in this position tends to be a confirming sign.

(Note: The author expresses his gratitude to Drs. J. C. Tower, H. S. Whaley, and H. F. Zartman, pediatricians in Anchorage who referred patients to the study and provided constructive criticism for this report.)



# Enteropathogenic *ESCHERICHIA COLI* diarrhea in Western Alaska

by

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## INTRODUCTION

Between the times of "break-up" and "freeze-up" in 1965 of Alaska's two largest rivers, a total of 61 babies with Enteropathogenic *Escherichia coli* (EEC) diarrhea were treated in the Alaska Native Hospital\* at Bethel, Alaska. A number of complicated and/or severe cases were transferred to the Alaska Native Medical Center in Anchorage, Alaska. All cases studied came from an area served by the Bethel Hospital where approximately 11,000 Alaska Natives (Eskimos and Indians) live within an area of 85,000 square miles. These native people are found in 55 villages of varying size, scattered along the Bering Sea coast, Lower Yukon River and the Lower Kuskokwim River. The means of transportation to the hospital is almost entirely by airplane. In the case of a few small nearby villages, dog team or small boat transportation are also possible.

## EPIDEMIOLOGICAL DATA

Fifty-nine of the 61 babies developed diarrhea in their home village, and the remaining two were hospital-acquired cases. The 59 primary cases came from 18 widely scattered villages within the area served by the hospital. This is illustrated in Figure 1. Thirty-two (54.2%) of these came from four villages quite distant from each other and among which there is little direct travel.

A seasonal pattern resembling the patterns of other enteric diseases was found. Figure 2 shows the number of cases by month of hospitalization and demonstrates the upswing of cases in late summer. Most patients were admitted to the hospital between the times of "break-up" and "freeze-up", and 39 (66.2%) babies were admitted during the months of July, August, and September.

Fifty-five (90.2%) of the children were under one year of age at the time of hospitalization, and the oldest in the series was 16 months of age. Only four were less than one month of age. This distribution by age can be seen in Figure 3.

\* Operated by the Division of Indian Health, Public Health Service, U. S. Department of Health, Education and Welfare

Seventeen deaths in the group account for a case fatality rate of 27.9%. On August 31, chickenpox was introduced on the ward and Figure 4 illustrates the unfortunate outcome of this. Seven or 41.2% of the 17 deaths were related to the acquisition of chickenpox. All of the babies who died with chickenpox developed the disease after the diarrhea had been controlled. Of the remaining ten, one was dead at the time of arrival at the hospital and a second one developed *Klebsiella pneumoniae* meningitis in addition to diarrhea. Of the 61 patients with diarrhea, 23 acquired chickenpox. Therefore, the fatality rate was 30.4% for the babies who had diarrhea and chickenpox. All deaths except one who died on her first birthday, were in children under one year of age. There appeared to be even distribution of cases according to the age at the time of death, and this is illustrated in Figure 5. A summary of the deaths is presented in Table 1.

## CLINICAL DATA

### A. Symptoms and Signs

The clinical course of EEC diarrhea was characteristically prolonged and complicated. History regarding onset of diarrhea before admission was available in 48 cases. Most of the babies had a history of diarrhea several days to a week before coming to the hospital, but a surprising number had symptoms for a much longer time prior to admission. In two cases, the diarrhea was present for over a month prior to admission.

The frequency of stools varied, but it usually ranged between three to six every day. The single factor which most frequently convinced parents, the native village medical aide, or the doctor, that the baby should be admitted, was the onset of persistent vomiting. Vomiting was a presenting complaint in 88.3% of the admissions.

It is interesting that 22 (36.1%) of the 61 gave a history of having been given a course of antibiotic treatment, two to three weeks before hospitalization, for various infections such as pneumonia, bronchitis, and otitis media. As far



## CAUSES OF DEATH

Name	Age	Contributing Factors	Principle Causes	Autopsy
1. J.M.	7 mos.	congenital skeletal defects	diarrhea	X
2. M.M.	3 mos.		Pneumonia, diarrhea	petechiae over liver, petechiae and ulcerations, stomach only.
3. H.Y.	11 mos.		diarrhea	X
4. J.N.	7 mos.		diarrhea	large intestine thin and denuded
5. O.A.	6 mos.	mongolism	diarrhea	X
6. M.S.	4 mos.		diarrhea	small ulcerations of the stomach
7. E.S.	4 mos.		diarrhea	X
8. P.A.	10 mos.		(died at home) presumed diarrhea	X
9. P.H.	2 mos.	mongolism	chickenpox	X
10. E.D.	11 mos.		chickenpox	X
11. W.C.	6 mos.		chickenpox	X
12. P.A.	9 mos.		chickenpox	liver small petechial hemorrhages
13. B.D.	4 mos.		chickenpox	
14. M.S.	4 mos.		chickenpox	
15. R.L.	10 mos.		meningitis due to <i>Klebsiella pneumoniae</i> and diarrhea	mucosa of bowel and stomach appeared grossly normal. Every organ had small pale areas surrounded by hemorrhages changes of meningitis but liver had intense fatty change
16. B.S.	12 mos.		chickenpox	bowel and stomach appeared normal
17. G.H.	1 mo.		diarrhea	X

as information can be obtained, none of the babies who received these drugs had diarrhea at the time of their administration.

The clinical signs of EEC diarrhea were non-specific. The most characteristic features which were not measurable were the odor and color of the stools. The stools were variously described by observers, but most frequently used adjectives included "slimy," "greenish," mucoid," and "watery." The characteristic odors, noted by everyone, were pungent, sweetish, and musty.

Statements regarding the degree of dehydration at the time of admission were made by the admitting physicians for 44 of the 59 primary cases. Fourteen (31.8%) were judged to have dehydration, 21 (47.7%) were thought to have about 5% dehydration, and nine (20.5%) were 10% or more dehydrated. Generally, there was a lack of marked dehydration considering the prolonged history of diarrhea prior to admission.

In 23 babies (37.7%) additional infections, such as otitis media, bronchitis and pneumonia, were noted at the time of admission. There were 38 cases that were free of other infectious illnesses, and these usually presented with low-grade rectal temperatures most often between 100° and 102° F.

### B. Laboratory Findings

Routine laboratory studies were nonspecific. White blood cell counts tended to be elevated with a predominance of lymphocytes characteristic of the age group involved.

Three stool cultures for EEC were collected at the time of admission in all children with a history of diarrhea. In every case serotype 0111:B4 was isolated from the stool samples collected. From the stools of four babies, serotypes 0124:B17, 055:B5 and 0125:B15 were also isolated, but none of these three serotypes were found alone.

### C. Hospital Course

All but two of the babies had more than three to four watery stools a day at some time during their hospital course. Fifty patients demonstrated improvement of diarrhea while in the hospital, but one died at home following relapse. None of these had diarrhea for less than three days. Twenty (40%) had diarrhea from 3 to 12 days, and the same number had watery stools from 15 to 24 days. The ten remaining babies were symptomatic for more than 29 days, and one of these had diarrhea for as long as 110 days.

Of the 52 cases who did not die because of diarrhea, 40 (77%) required I. V. therapy.

During the early part of the epidemic, furazolidone was the antibiotic used exclusively. On the basis of sensitivity studies and the experience of others (2) (8), colistin was used almost entirely during the latter part of the epidemic. Although good data could not be gathered from this review regarding the relative effectiveness of these two drugs, it was the impression of most physicians involved in the care of these babies that the course of the disease was somewhat shortened when colistin was used.

There were 64 admissions to the hospital of the 61 cases studied. Only nine of these were uncomplicated with other infectious illnesses. It can be seen in Figure 6 that the uncomplicated ones were usually shorter when compared with the length of hospital stay where infectious illness and/or chickenpox was involved.

## DISCUSSION

The data presented were collected during an epidemic which came with sudden force and fury in the summer of 1965. In many ways the staff at Bethel Hospital was not prepared to collect more extensive epidemiological data, which would most certainly have been valuable. On the basis of reports by shortwave radio, there were probably significant numbers of infants with EEC diarrhea in the villages whose symptoms were not severe enough to warrant hospitalization. A future study of the epidemiological features of this disease in the small, closely-knit native villages, where dogs are abundant and sanitation notably poor, would be most interesting. The results of recent studies indicate that well over 90% of the houses do not have piped water supplies, and more than 95% of the houses have no flush toilets. (7)

The findings of this study amplify those of others regarding the seriousness of EEC diarrhea. (3) (6) It was felt that our experience gave further evidence that the diarrhea alone is not often a big problem. Babies suffering from EEC diarrhea seemed more susceptible to secondary infections and frequently became seriously ill as the result of such infections. Particularly in our experience, chickenpox, which is usually considered a benign disease, became a severe illness with a high fatality rate.

An attempt was made to find whether the onset of diarrhea was related to previous administration

of antibiotics. Interest in this based on the idea that normal intestinal flora may be suppressed by antibiotics allowing overgrowth of EEC and subsequent diarrhea. It was felt that our data supported this possibility, but the fact cannot be proven until more detailed and controlled studies are done. In order to further study this, the asymptomatic carrier rate and the number of carriers who received treatment, but who did not develop diarrhea, would have to be known.

Our experience confirms the fact that diarrhea due to EEC is not limited to newborns in nurseries. All but two of our cases apparently acquired their illness in isolated villages. It would appear that EEC diarrhea mainly affects the very young and is most dangerous for infants.

It was notable to the physician involved in this epidemic that EEC diarrhea presented with very non-specific manner. Because of this, symptomatic treatment was often given for a prolonged time, and hospitalization delayed until the child began to vomit. It would seem that in the event of a further epidemic, earlier diagnosis and hospitalization with the prompt introduction of effective antibiotic treatment based on *in vitro* sensitivity studies will be necessary in order to reduce the morbidity and mortality of EEC diarrhea.

## SUMMARY

In the summer of 1965, 61 babies with Enteropathogenic *Escherichia coli* diarrhea (EEC) were treated at the Alaska Native Hospital, Bethel, Alaska. Fifty-nine babies acquired diarrhea in their home villages, and two were hospital acquired. All babies were less than 16 months of age. Seventeen babies died (case fatality rate of 27.9%), but seven deaths were related to chickenpox. All deaths were in infants.

The clinical signs and symptoms of EEC diarrhea were non-specific, and the diagnosis depended on stool culture results. Serotype 0111:B4 was found in every case. Thirty-six point one percent of the babies admitted gave a history of recent previous antibiotic treatment for other illness.

Only nine cases had an uncomplicated hospital course and needed treatment for diarrhea alone. I. V. therapy was required in 77% of the babies.

The epidemiology of EEC in isolated native villages is not well known and should be defined better. It would seem that earlier diagnosis and prompt treatment with an appropriate antibiotic would significantly reduce morbidity and mortality.



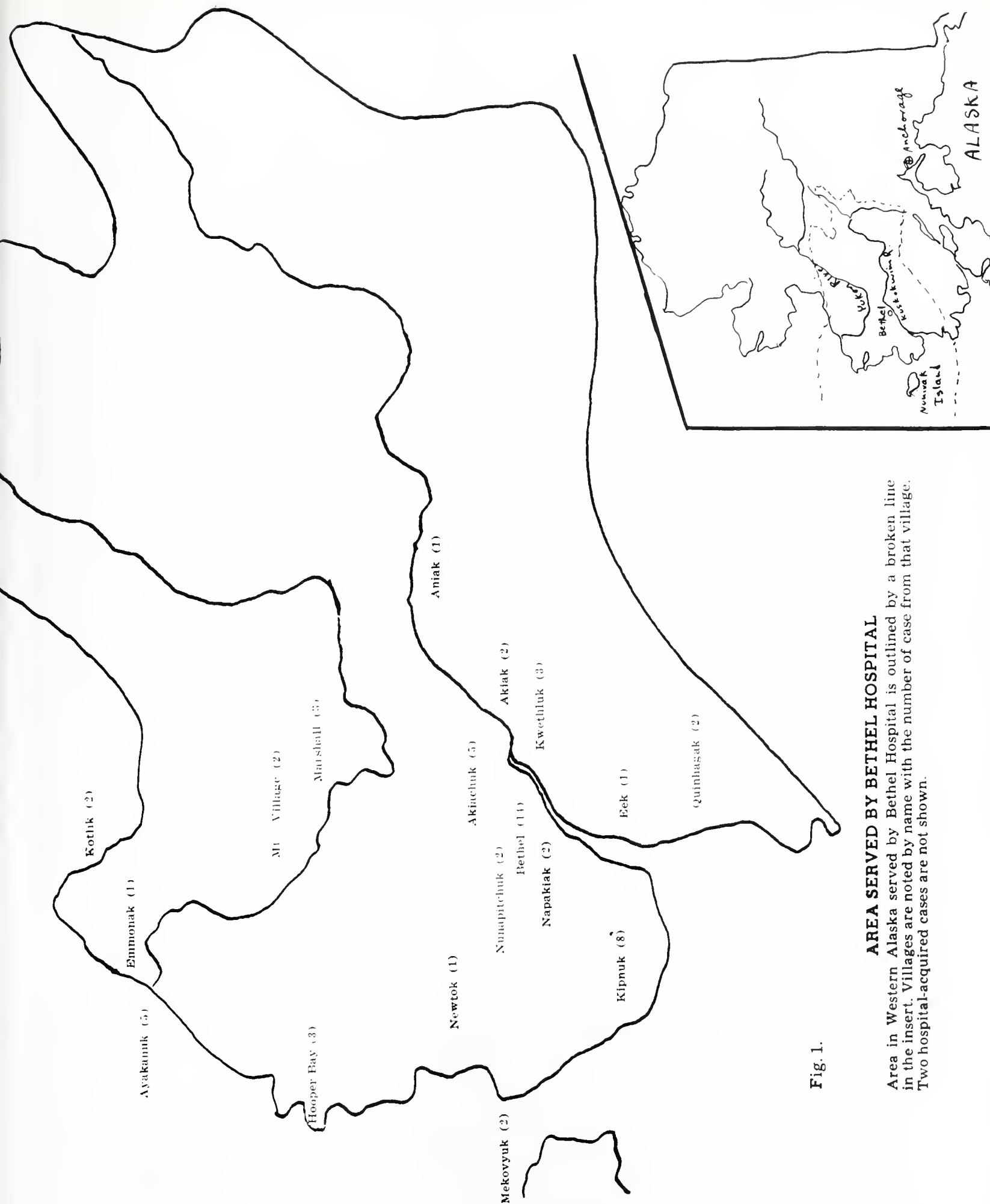
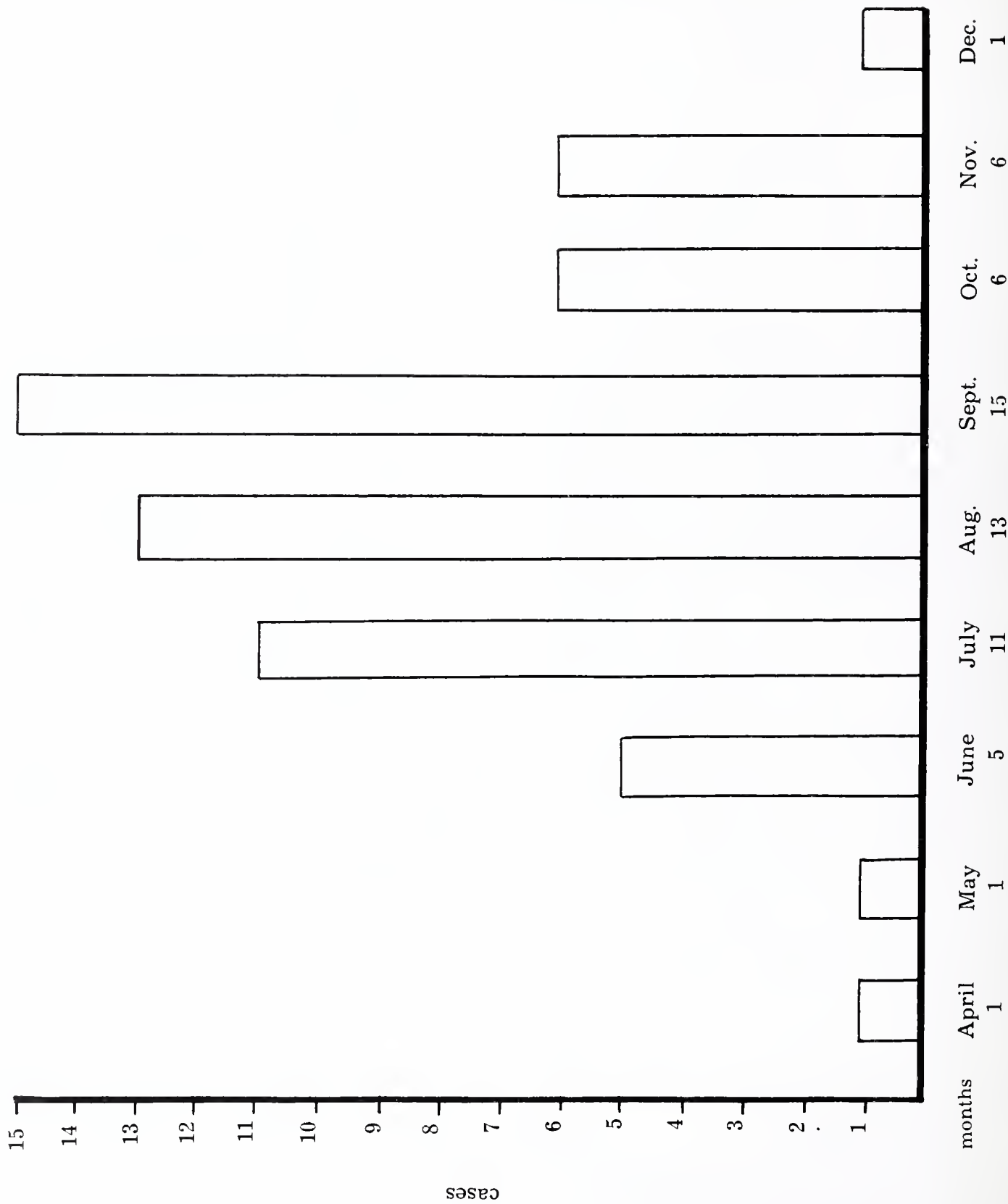


Fig. 1.

#### AREA SERVED BY BETHEL HOSPITAL

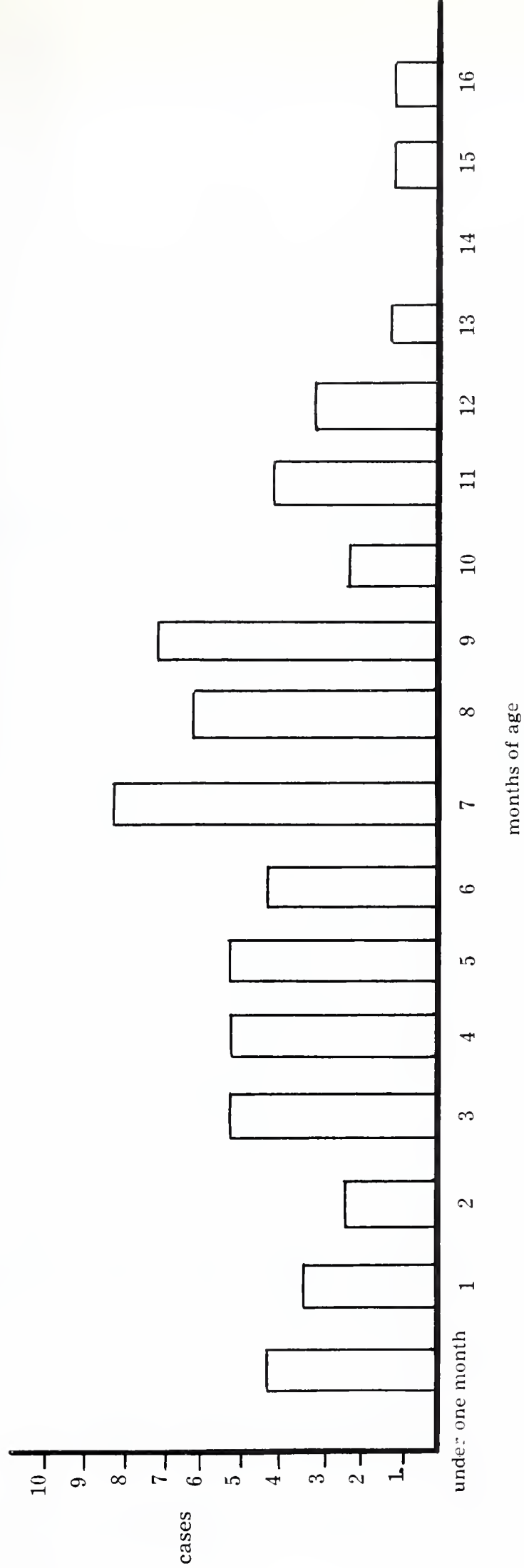
Area in Western Alaska served by Bethel Hospital is outlined by a broken line in the insert. Villages are noted by name with the number of case from that village. Two hospital-acquired cases are not shown.



**NUMBER OF CASES BY MONTH OF HOSPITALIZATION**

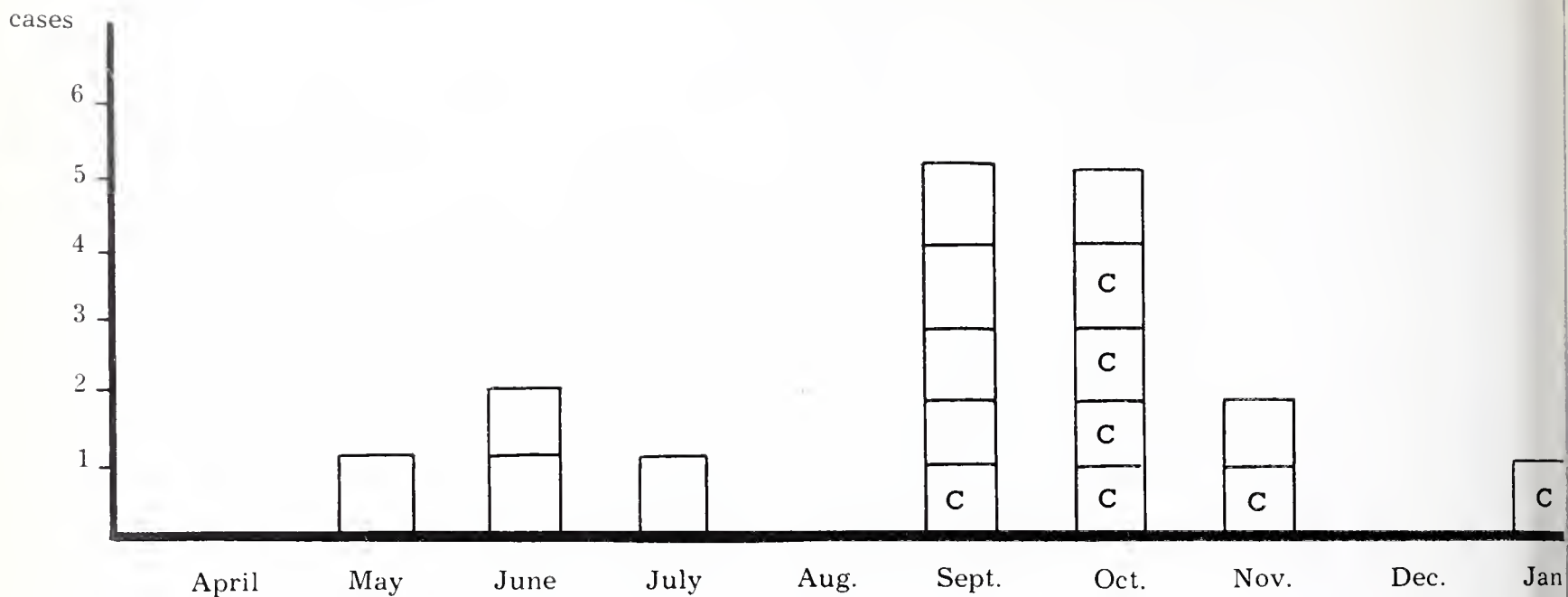
**Fig. 2.**





**AGE IN MONTHS AT TIME OF HOSPITALIZATION**

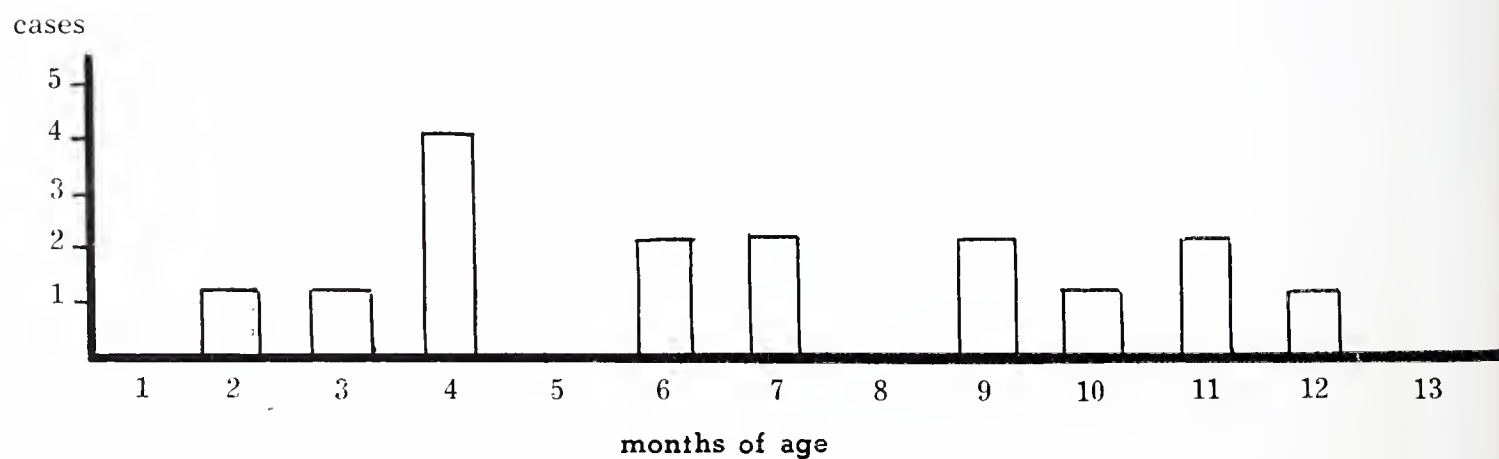
**Fig. 3. This shows the number of cases by age at the time of admission to the hospital**



### NUMBER OF CASES BY TIME OF DEATH

Fig. 4

Letter "C" indicates deaths related to chickenpox. The index chickenpox case entered the ward on August 31.

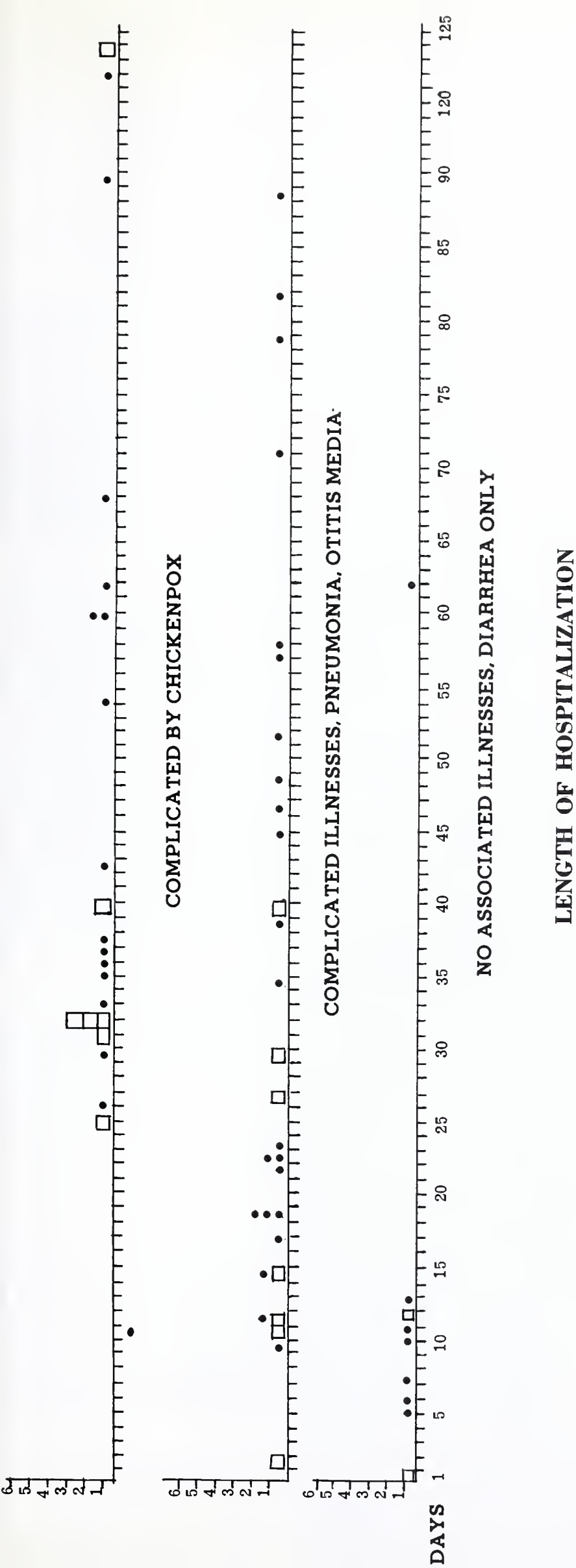


### NUMBER OF CASES BY AGE IN MONTHS AT TIME OF DEATH

Fig. 5

One infant less than one month of age died and is not indicated on this graph.





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**Fig. 6.**  
 One infant who was dead on arrival at the hospital and two who are still in the hospital are not shown. Because three babies relapsed, there was a total of 64 admissions. A dot indicates an admission where the patient was discharged improved, while an open square indicates a death.

# OTITIS MEDIA IN URBAN ALASKA

by

Dwayne Reed, M. D. and Jacob Brody, M. D.

Acute otitis media and resulting middle ear pathology are problems of unusually high magnitude in Alaska. Several studies (1-3) have reported a history of otitis media in over 30% of native children and 20% of Caucasian children. A cohort study of 378 Eskimo children showed that 62% had otorrhea by 4 years of age and that 31% had a hearing deficit of 26 decibels or more (4).

The present study was undertaken to accumulate descriptive data of otitis media occurring among Caucasian children seen in medical practice in Anchorage, Alaska, and to follow the cases and their siblings for a one year period to determine the frequency of episodes of otitis media, the nature and duration of symptoms and possible predisposing factors.

## METHODS

The study population included "index cases" under age 15 seen by one of the seven participating physicians between October 1964 and May 1965, and the sibling of the index cases in the same age category. Post cards with space for diagnosis, date of onset, and type of treatment were supplied to the physicians and were used to notify us of an index case child with acute otitis media. Upon receipt of the notification cards from the physicians the parents of the children were contacted by phone or household call. During the initial interview, information was obtained concerning the date of onset, duration, symptoms, illnesses associated with the present episode, and general background information concerning prior episodes. Identifying information and history of otitis media among siblings in the household were also obtained at this interview. The nature of the study was explained and the parents were requested to record information concerning episodes of otitis media during the coming year. The index cases and their siblings were then followed for one year by means of repeat interviews at one, six and 12 months following the initial contact. During these interviews retrospective information regarding middle ear disease was obtained. An episode of otitis media or a past history of middle ear disease was defined as that diagnosed by a physician; or in the occasional instance when a child had not seen a physician as "ear infection" manifested by earache accom-

panied by fever, irritability, ear tugging, or otorrhea.

Because of the method of selection of the cases and the possible familial influence on the siblings, the follow-up analysis is not meant to be representative of the general population.

## RESULTS

Of 319 referrals, 277 index cases children from 237 households were contacted and put under surveillance. The sibling comparison group consisted of 447 children. The age distribution of these two groups was different, as 65% of the index cases were under age 5 compared to 35% of the siblings.

The history of middle ear disease for the two groups of children prior to entering the study is shown by age and sex in Table 1. Sixty-eight percent of the index case children and 50% of the siblings had a positive history. Forty-five percent of the index cases and 30% of the siblings had had one or more episodes of middle ear infection accompanied by otorrhea. In both groups there were more positive histories among males than females. The percent of children with positive histories increased dramatically with age.

Separate analysis showed that of 500 children for whom we could date the first episode of otitis media prior to or during the present study, 42% reported onset before one year of age, and 60% before their second birthday.

### Episodes of Otitis Media During the Study Year

Eighty-six percent of the children were followed for at least 6 months while 75% were followed for an entire year. During the year following the indexing episode of otitis media, 134 (48%) of the index cases experienced an additional 197 episodes of otitis media, while 86 (19%) of the siblings experienced 120 episodes during the same period of time.

The incidence of these episodes is shown by age and sex of the two groups of children in Table 2. To establish an incidence rate the number of children in each age group was multiplied by the length of time they were under surveillance. The incidence rate of .83/child year for the index case group was nearly three times as high as the rate for siblings. The rates were highest for child-



ren under five and declined gradually in the older age groups. Males had higher rates among the index case group but not among the siblings. The attack rate was higher among children who had a history of previous episodes than those without such a history.

### Seasonal Distribution

The seasonal incidence during the surveillance year was calculated by dividing the number of episodes of otitis media occurring within any month (not including indexing episodes) by the number of children under surveillance during that month (Figure 1). The highest rates were reached between February and May and the lowest rates were seen during the mid-summer period. The rates for the index cases were higher than for their siblings throughout the entire year.

### Clinical Reports

The chief symptoms of the index episodes and of the episodes occurring during the surveillance are shown in Table 3. The frequency of symptoms was similar among the different groups. Ear pain and fever were most common, and otorrhea accompanied 23% of the episodes. The diagnosis was made in absence of a complaint in 12% of the episodes.

The duration was reported for 478 of the total episodes. Of these, 64% lasted one to four days, 22% lasted five to seven days, and 18% lasted longer than eight days. There were five index cases and six siblings who had episodes which lasted over one month. The right ear was affected in 31% of the episodes, the left 31% and both ears in 37%.

Medical treatment records were available only on the 277 index case episodes. All of the children received antibiotics, and 90% also received nasal decongestant. Myringotomy was performed in 72 instances and appeared to slightly reduce the duration of illness.

Information was also available on illness occurring within a two week period preceding the onset of the 277 index episodes. Two hundred and eighteen (79%) of these children had a preceding illness involving the upper respiratory tract. Of these, 181 had upper respiratory infection (URI), 8 had bronchitis, 10 sinusitis, 7 tonsillitis, and 12 had a childhood virus disease with an URI component (measles, chickenpox, and mumps).

Forty-four of the index children had had a tonsillectomy and adenoidectomy (T&A) prior to the

study. During the study year, 50% of these children had a recurrent episode as compared to 48% of those remaining children who had not had T&A. The incidence of episodes of otitis media during the study year was also similar for 52 children who had a history of allergy compared to those without such history.

### DISCUSSION

The introduction of antibiotics has changed the clinical picture of otitis media considerably. Despite this, there is evidence that this disease is still common and serious not only in native groups (1-4) but also in general practice (5,6). The present study indicates that in Anchorage otitis media is a common problem among families which had one affected child seen by a physician. The annual attack rates of nearly 50% for index cases and 20% for siblings are much higher than rates of 10 to 15% reported among children seen in general practice in England (5,6), however, the study populations were different.

The high risk of onset of the first episode of otitis media during the first two years of life, the high attack rates in preschool and early school years and the increased risk of subsequent attacks following each episode were also found in a study of Eskimo children (4) and were reported in the English studies (5,6). These findings indicate that the foundations of otitis media and subsequent complications are established during the first few years of life, and it follows that this is the time for intensive treatment and the instigation of preventive measures.

The seasonal distribution of cases and the high proportion of affected children with a respiratory illness preceding the onset of otitis media were similar to the findings of other reports (5,7). The seasonal pattern of otitis media corresponds with that of most respiratory diseases, with the possible exception of tonsillitis. These associations emphasize the point that the infected middle ear should be considered an integral part of the respiratory tract, and they indicate the potential benefit from the respiratory vaccines currently being developed.

### SUMMARY

A group of children under age 15, diagnosed as having otitis media, and a comparison group of their siblings were followed for one year. From historical evidence 68% of the index cases and 50% of the siblings had otitis media prior to entering the study. The onset of the initial episode

occurred during the first two years of life for 60% of the affected children.

During the study year 48% of the index children and 19% of the siblings experienced one or more episodes of otitis media. The incidence rates were highest for children under five, and for children with episodes prior to entering the study.

The seasonal distribution of cases and the occurrence of a respiratory illness prior to the onset of otitis media in 79% of the affected children indicates an association between the infected middle ear and respiratory infections.

ACKNOWLEDGMENTS

We are indebted to the following Anchorage physicians whose help made this study possible: Glen Crawford, M.D., Wallace Dunn, M. D., Don Langston, M. D., Rudy Leong, M. D., John Tower, M. D., Helen Whaley, M. D., and Harvey Zartman, M. D. Carol Judd, Statistical Clerk, and Theresa Overfield, R. N. (AHRC) conducted interviews and Mrs. Judd helped with the statistical tabulations. Laurel Hammes, Statistician, (AHRC) performed the statistical analysis.

Table 1  
Percent of children with past history of middle ear disease by age and sex.

Categories		Population at risk		Percent with past history of middle ear disease	
		Index cases	Siblings	Index cases	Siblings
Sex Age upon entering study	< 1	36	25	22	20
	1	41	16	76	19
	2	37	25	68	44
	3	30	38	60	50
	4	36	51	78	61
	5	29	48	86	56
	6	18	43	89	58
	7	18	38	78	61
	8	11	37	82	57
	9	6	26	67	65
	10-14	15	100	67	42
	Male	144	214	74	56
	Female	133	233	61	45
TOTAL		277	447	68	50

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Table 2  
Incidence of otitis media during the study year by age and sex

\*Does not include index episode.

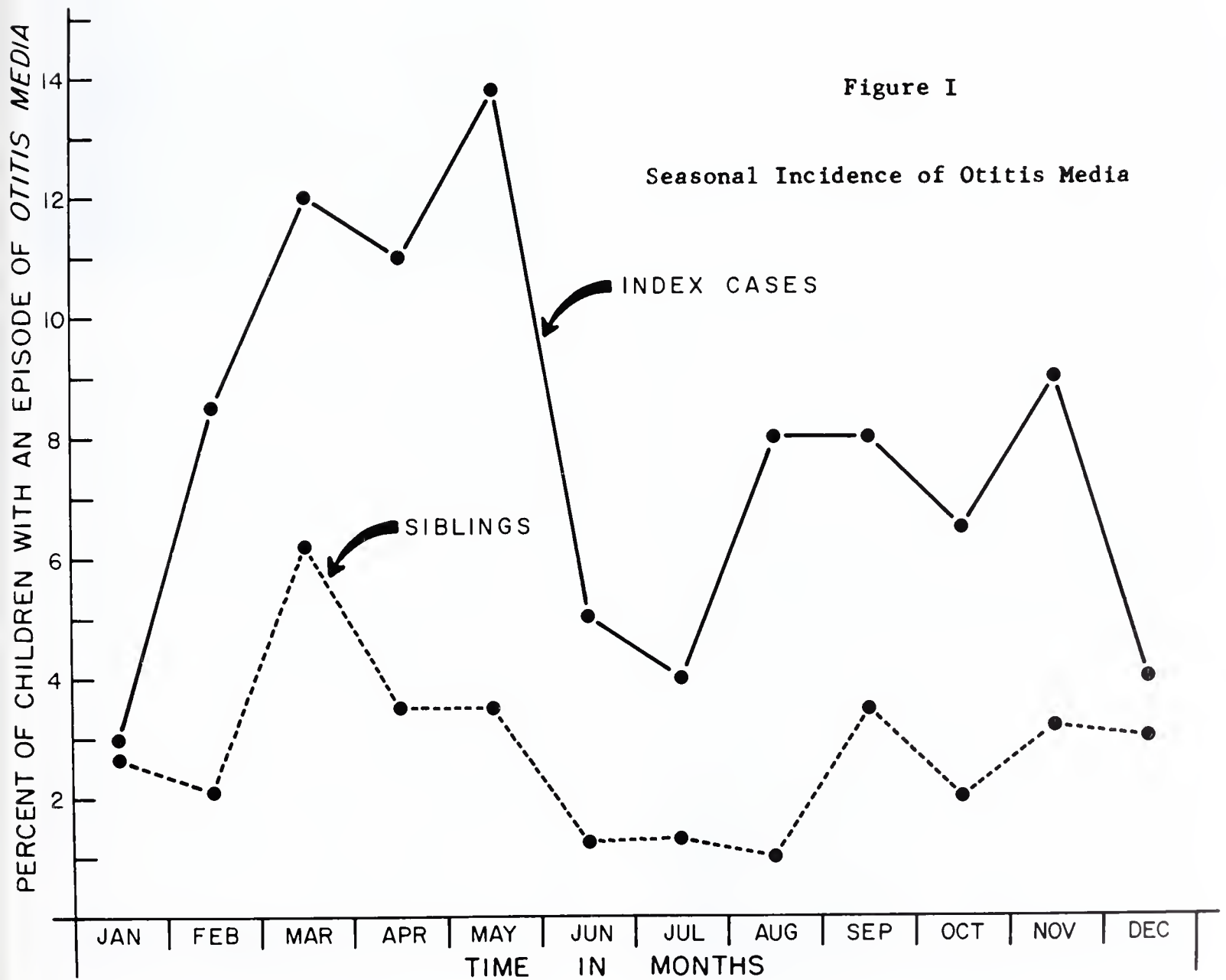
Categories	Child years of risk		Number of episodes		Episodes per child year	
	Index cases	Siblings	Index cases*	Siblings	Index cases	Siblings
<1	34	16	37	16	1.09	1.00
1	31	16	23	9	.74	.56
2	28	21	31	12	1.11	.57
3	26	34	22	11	.85	.32
4	28	44	26	17	.93	.39
5	26	39	22	15	.85	.38
6	18	39	11	18	.61	.46
7	16	35	11	6	.69	.17
8	10	32	7	4	.70	.13
9	7	23	1	1	.14	.04
10-14	13	85	6	11	.46	.13
Male	115	177	107	50	.93	.28
Female	121	207	90	70	.74	.34
Total	236	384	197	120	.83	.31



Table 3

Frequency of symptoms reported with otitis media

Symptoms	Percent of episodes in which symptoms were reported			
	Index episodes (277)	Additional index case episodes (197)	Sibling episodes (120)	Total (594)
Earache	51	70	72	60
Fever	41	47	53	45
Irritability	22	30	18	24
Draining	18	31	19	23
Ear Tugging	11	8	1	8
None	16	8	12	12



## PRESIDENT'S PAGE

ROBERT H. SHULER, M.D.

*President Alaska State Medical Association*

**ABOUT MEDICARE:** I think there will be very little difficulty in the future since Mr. Lindstrand of the Aetna Insurance Co. in Portland assured me recently that there was no big rush—that they had had no bills which might need contesting and that they were prepared to continue payments on the same basis as with any other agency working with the Aetna Insurance Co. as a private carrier.

**MEDICAL PRACTICE INSURANCE:** We still need complete returns on the questionnaires sent out before we will have any specific talking points in attempting to equalize these insurance rates in Alaska. If you haven't finished the questionnaire, please do so and send it in as soon as possible.

**OBVIOUS MISUNDERSTANDING:** Members of ASMA who did not participate in fee schedule discussions at the 1965 or 1966 meetings may not understand just what decision was actually made.

The California RVS with values set by the Medical Society meeting as a committee of the whole, is intended as a guideline for **maximum** fees to be used for negotiations with government agencies, particularly Armed Forces Medicare. At present, Armed Forces Medicare insists that the physician sign a statement accepting his fee or theirs, whichever is least, and this is the only agency which insists that the private physician may not know what their fee schedule is. The relatively high values established were, therefore, for eliminating underpayment in some northern areas **and were not intended to be guidelines for minimum fee schedules in any area.** Some insurance companies have questioned charges which suddenly increased by 20 to 30 percent on this basis. Speaking for the Society as a whole, I hope that there will not be a rash of contested charges to be settled by the next meeting of the State Council. To date, Armed Forces Medicare officials have made no attempt to discuss this problem since May 1966.

**WELFARE CONTRACTS:** Some of you have been concerned about the contracts which were sent out by the Department of Health and Wel-



Robert H. Shuler, M.D.

fare with the statement that according to law they must have contracts. As far as I have been able to determine, there was no pertinent law of this nature passed during the 1966 legislature. The principle of free choice of physician still exists as far as I know, and I feel sure that it is not the intent of the Department of Health and Welfare to send patients only to physicians who have signed this contract. However, I do wish to publicly commend Mr. Harmon and Dr. Browning for their efforts in setting up what seems to be a very fair fee schedule, thereby eliminating the time-honored custom of using the VA schedule as the only pattern for payment by government agencies in Alaska. I am sure that most of you will do what I am doing: take care of the patients, send in your bill, and be grateful that the new fee schedule for Welfare is better than anything we have had previously.

I hope to bring you more news of importance after attending the State Officers Conference in Chicago August 26 and 27.



## ASMA NEWS and REVIEW

### AMA HOUSE OF DELEGATES ACTIONS

Federal health legislation, physicians' billing procedure, medical ethics, health manpower and an increase in the AMA annual dues were among the major issues acted upon by the House of Delegates of the American Medical Association at its June 26-30 meeting in Chicago. In accepting the Board of Trustees' report on Medicare, the House recommended that the Association give wide dissemination to information on direct billing, the purpose of utilization review, the rejection of compensation for service on such committees except in exceptional circumstances, and the proper placement of any onus of responsibility for the failure of the Medicare program. The House strongly supported the general concept of individual responsibility and adopted three resolutions recommending that physicians use the direct billing method under Public Law 89-97 rather than the assignment procedure. The House also declared it "unethical for a physician to displace a hospital based physician who is attempting to practice separate billing when said displacement is primarily designed to circumvent separate billing." The House urged the AMA to assume leadership and mobilize its efforts to meet present and future shortages in health manpower. By a vote of 168 to 46, the House approved an increase in the AMA annual dues from \$45 to \$70, effective January 1, 1967.

### PHYSICIANS FILL REGENTS POST FOR UNIVERSITY OF ALASKA

Pictured at the right are Doctor William M. Whitehead of Juneau and Doctor Arthur J. Schaible of Fairbanks. Each of these long time Alaska physicians are members of the Board of Regents of the University of Alaska. Appointed by the governor, both Doctor Whitehead and Doctor Schaible take time from a busy practice to serve in this important capacity in guiding the destiny of our state university.

### National Congress On Medical Quackery Meets Next Month

The Third National Congress on Medical Quackery will be held October 7 and 8, 1966, at the Pick-Congress Hotel in Chicago. The Congress will be sponsored jointly by the American Medical Association and the National Health Council.

The AMA House of Delegates in June adopted a recommendation of the AMA Board of Trustees urging medical society representation at the October Congress.

The theme of this year's Congress will be "Medical Quackery: 1966". An outstanding lineup of speakers has been obtained and copies of the program have been mailed to all local and state societies. A pre-session "Seminar on Chiropractic Legislation" has been planned for the afternoon of October 6. It will be open only to authorized state and county medical society representatives.

Alaska representatives who plan to attend both the Congress and Seminar are Doctor Edward Spencer, ASMA Councilor from Sitka, and Mr Vernon C. Walker, Executive Secretary of ASMA.





# EQUINOX MARATHON

This is a race? It is. It's the Equinox Marathon, staged annually by the University of Alaska on the Saturday nearest the autumnal equinox, when day and night are of equal length all over the world.

What a way to run a race . . .

The getaway from the starting lineup is a leisurely stroll, eyes skyward to enjoy the birdlife which circles overhead. During the midway dash contestants stop frequently to enjoy the multitudes of wildflowers en route, or perhaps even spread a picnic lunch.

In distance (26 miles, 385 yards) it equals the great track marathons of the world, including the famous Boston event. But in every other respect the Alaska version is strictly like no other.

Of course a number of racers do take the running seriously. They go the distance at breakneck speed. The record stands at three hours, 38 minutes, and 42 seconds.

However, most participants — and the University expects at least 500 for the September 24 run-

ning of the 1966 contest — are simply vacationers, students, faculty members, residents from nearby Fairbanks, even whole families who stroll and dawdle the distance with not the slightest thought about who may cross the finish line first or last.

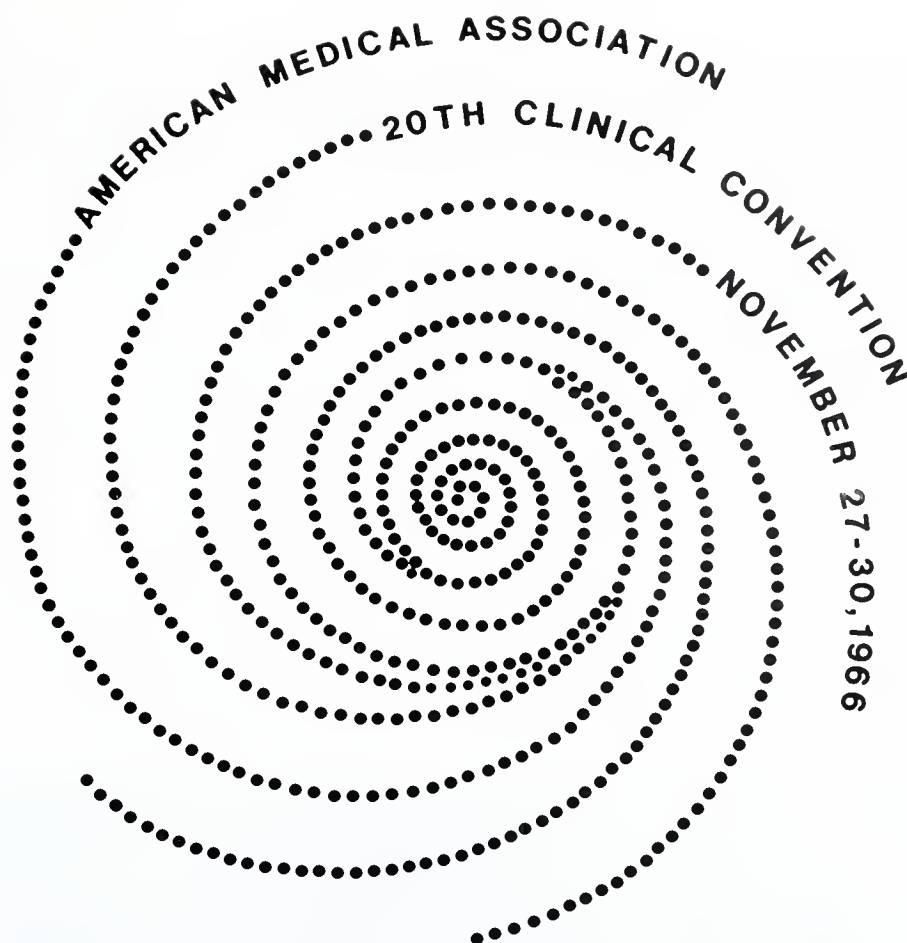
Why should they? For most contestants, there's much too much to see and enjoy to worry about speed. The course meanders through fall-colored forests, over rolling sub-Arctic tundra glades, and past old goldrush-era log cabins. It skirts also the U of A experimental farm, one of the few places in the world where you can see the rare musk oxen, and traverses a wintertime ski slope. Along the route there's a chance you'll see moose, possibly even a small band of migrating caribou. Finally the course returns to the place where it began — the main campus.

When it's over, everyone who completes the course is declared a winner. And, as a winner should, each receives a prize: a gold patch bearing the inscription "Equinox Marathon".

This article provided by Alaska Travel Division, Box 2391, Juneau, Alaska.







# AMA '66 LAS VEGAS

Convention site "extraordinaire" that's Las Vegas. America's entertainment capital becomes the classroom for America's practicing physicians—offering you a comprehensive, compact, postgraduate course in recent developments in medical science. A magnificent Convention Center, fine hotels and motels, excellent restaurants plus star studded entertainment await you and your family.

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The complete scientific program, plus forms for advance registration and hotel accommodations, will be featured in JAMA October 24.

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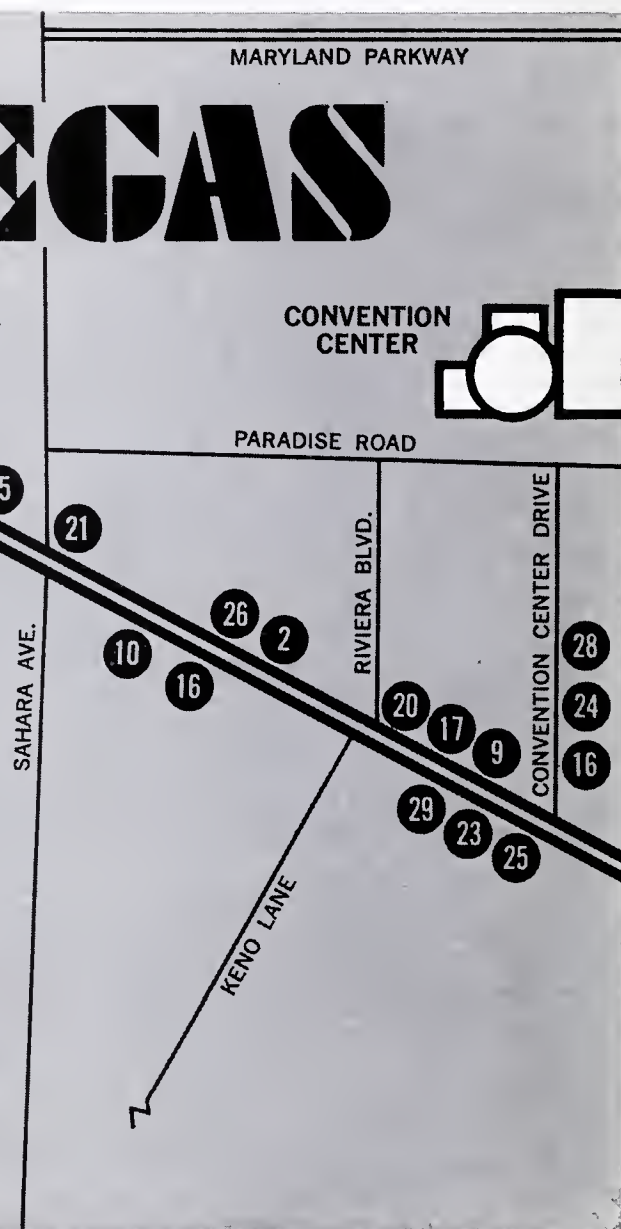
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- Reserve rooms as soon as possible. Assignments will be made in the order requests are received.





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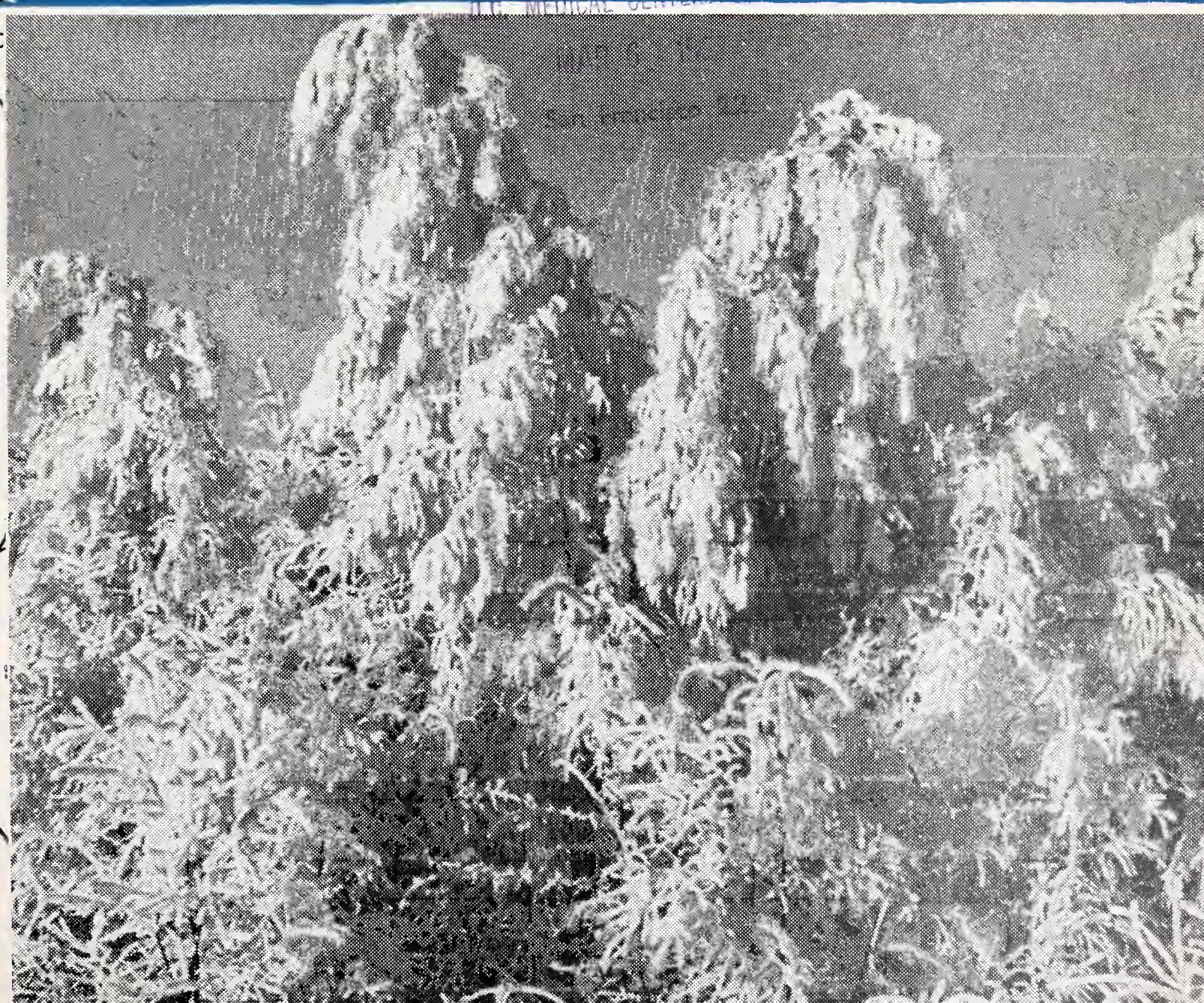
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# ALASKA MEDICINE

Volume 8, Number 4

December, 1966





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Vol. 3, No. 4

December, 1966

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# ALASKA MEDICINE

*Official Journal of the Alaska State Medical Association*

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# REPORT ON EMPYEMA AMONG ALASKA NATIVE CHILDREN

A Study of 22 Cases From The  
Alaska Native Medical Center  
U. S. Public Health Service  
Division of Indian Health  
Anchorage, Alaska

By **GEORGE W. BROWN, M. D.**  
Staff Physician, Department of Pediatrics

A study was made to find reasons for an increasing incidence of empyema in Native children during the last two years. Twenty-two cases in children from ages one month to 12 years were admitted between July, 1957, and April, 1966 at the Alaska Native Medical Center in Anchorage. These 22 cases were evaluated to learn: (1) if more widespread resistance to penicillin is causing increasing Staphylococcal empyema; (2) whether the new semi-synthetic penicillins are decreasing mortality, morbidity, and length of hospital stay; and (3) how the Alaska native cases compare with reported experience in other pediatric empyema studies.

## Clinical Material

The Alaska Native Medical Center, located in Anchorage, serves as a referral hospital for the field and contract hospitals serving Alaska natives. Patients from outside the Anchorage area are usually referred from either field hospitals of the Division of Indian Health (Barrow, Bethel, Kanakanak, Kotzebue, and Tanana) or by private physicians through contract medical services to beneficiaries. Acutely ill patients in remote villages are first seen by village aides who provide first aid and administer medications under directions by USPHS physicians via emergency and regular daily radio contacts. Patients who require hospitalization are brought in to the nearest field hospital or contract medical facility. In case of emergencies, air evacuation by Air Force or Coast Guard personnel is provided. Geographical distribution by Service Units, of our 22 cases of empyema correlated with the rural population distribution. The estimated native population in 1953-54 was 35,000 (Perrin Report). The total estimated native population in 1965 (including Mt. Edgecumbe Service Unit) is 51,300 (Table 1).

All but one of the 22 cases in this study were referred from Alaskan villages through local hospitals to the Alaska Native Medical Center. The one exception developed empyema during hospitalization here. The sex ratio of the 22 cases was 12 males to 10 females. Thirteen patients were under two years of age, two were two to four years of age, and seven were four to 12 years of age. There was only one death occurring in a 14 month old male from Barrow with Staphylococcal empyema who had second degree burns of the legs and buttocks one month and Rubeola two weeks before onset of empyema. He died 16 days after onset of empyema.

Study of factors predisposing to empyema revealed pneumonia to be the most common. Fifteen cases (71%) had pneumonia occurring 3 days to 2 months prior to developing empyema. Only the fatal case had Rubeola diagnosed prior to empyema. One patient had Influenza two weeks earlier, one had Rubella one month earlier, two had otitis a few weeks earlier, and two had conditions (a seizure and an unrepaired cleft palate) which probably caused aspiration a few days before onset of empyema.

The most frequent physical findings were: (1) decreased breath sounds and rales on the involved sides in all 22 cases; (2) percussion dullness in 14 cases; (3) tachypnea in 14 cases; (4) fever in 13 cases; and (5) a distended abdomen in 8 cases. The one fatal case was first diagnosed as acute appendicitis with suspected bowel obstruction. Another patient with severe empyema was transferred from another hospital with a suspected diaphragmatic hernia. Retractions (6 cases) were seen only in patients admitted during the first few days of their illness. Cyanosis (3 cases) was seen in only those patients who were critically ill at the time of their admission.

SERVICE UNIT	(Est.) 1965 POP.	CASES EMPYEMA
Anchorage	8,875	2
Barrow	1,978	2
Bethel	10,737	7
Kanakanak	3,520	1
Kotzebue	9,150	9
Tanana	5,865	1

(No Empyema Cases Sent From Mt. Edgecumbe)

TABLE 1. Comparison of Empyema Origin and Service Unit Populations.

Laboratory Findings

Eighteen patients had leukocytosis above 10,000 white blood cells/cubic millimeter, ranging from 10,800 to 41,200 WBC's/mm<sup>3</sup>. All four cases with white blood counts of less than 10,000 WBC's/mm<sup>3</sup> had longer durations of illness than those with above 10,000 WBC's/mm<sup>3</sup>. The lowest white blood count, 6,900 WBC's/mm<sup>3</sup>, occurred in the one fatal case. Fifteen patients had hemoglobin levels of 10 gm.% or higher. The lowest hemoglobin, 8 gm.%, occurred in the fatal case. Only three of the seven cases with lower than 10 gm.% hemoglobin had a more prolonged illness than the 15 cases with above 10 gm.% hemoglobin. The seven patients of less than 10 gm.% hemoglobin were sick with empyema for three weeks or more before their admissions here.

X-Ray Findings

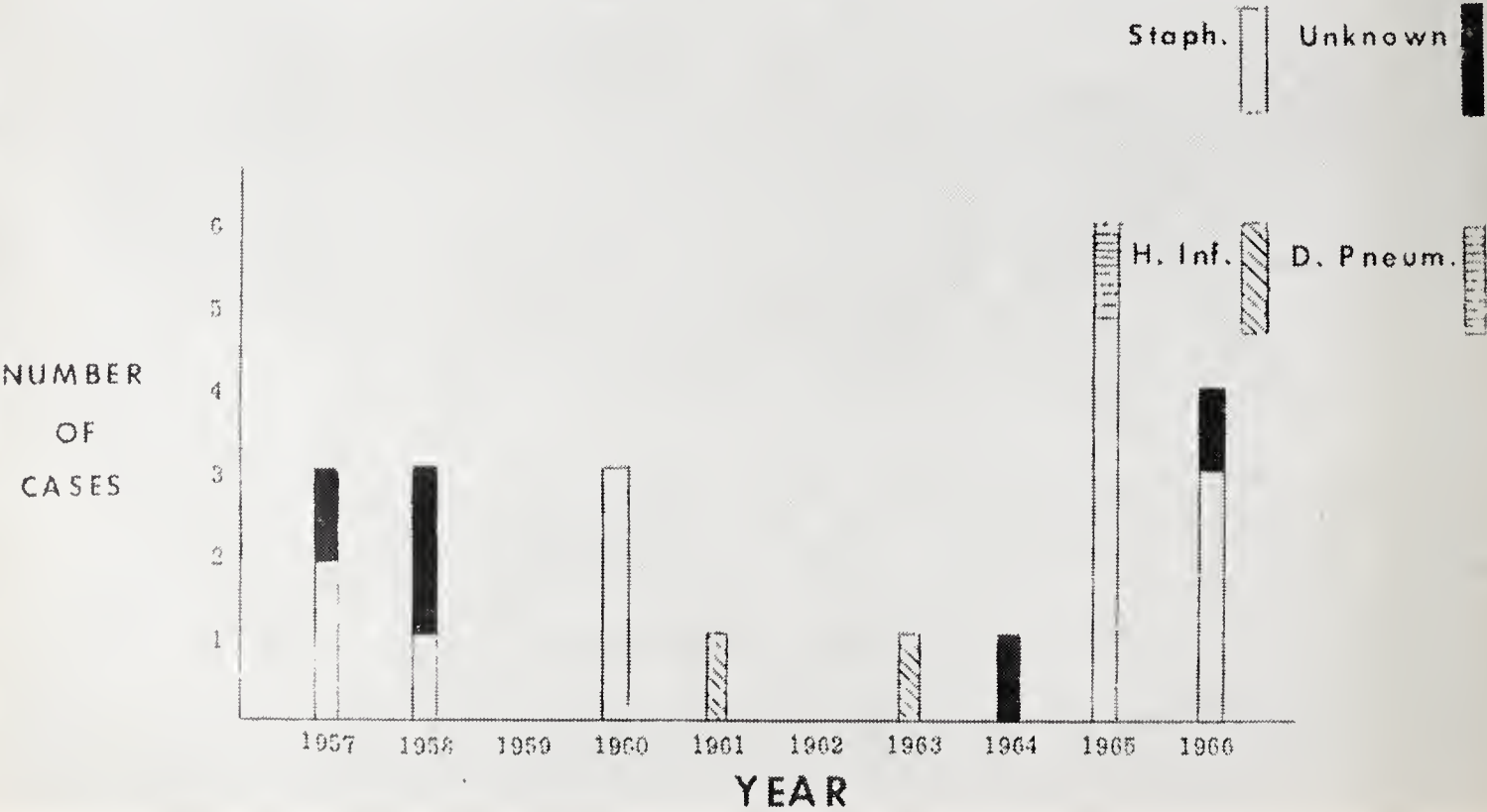
Pleural cavity fluid shadows (21 cases) and lobar infiltration (17 cases) were the most frequently found x-ray signs. Six patients had pneumatoceles, one of which was known to have been present before onset of empyema. Five patients had bronchopleural fistulas as demonstrated either by spontaneous pneumothorax or sinograms. (Sinograms were done by injection of radiopaque dye into the infected pockets through chest tubes). There were four cases of pneumothorax, one a spontaneous, tension type, two spontaneous without tension, and one of post-thoracentesis etiology. Three patients had scoliosis to the involved side.

Bacteriologic Findings

Fourteen of the 22 cases were diagnosed as Staphylococcal empyema. There was no bacterial growth from the pleural exudates of five of the Staphylococcal cases. These were diagnosed as Staphylococcal on the basis of their x-ray patterns and responsiveness to penicillinase resistant semi-synthetic penicillin. Two cases had *Hemophilus influenza* cultured from their pleural exudates. One of these was identified as type B. One case grew *Diplococcus pneumoniae* in the pleural exudate.

The five remaining cases had no bacteriologic diagnosis (Graph 1).

GRAPH 1. Bacteriologic Incidence Per Year



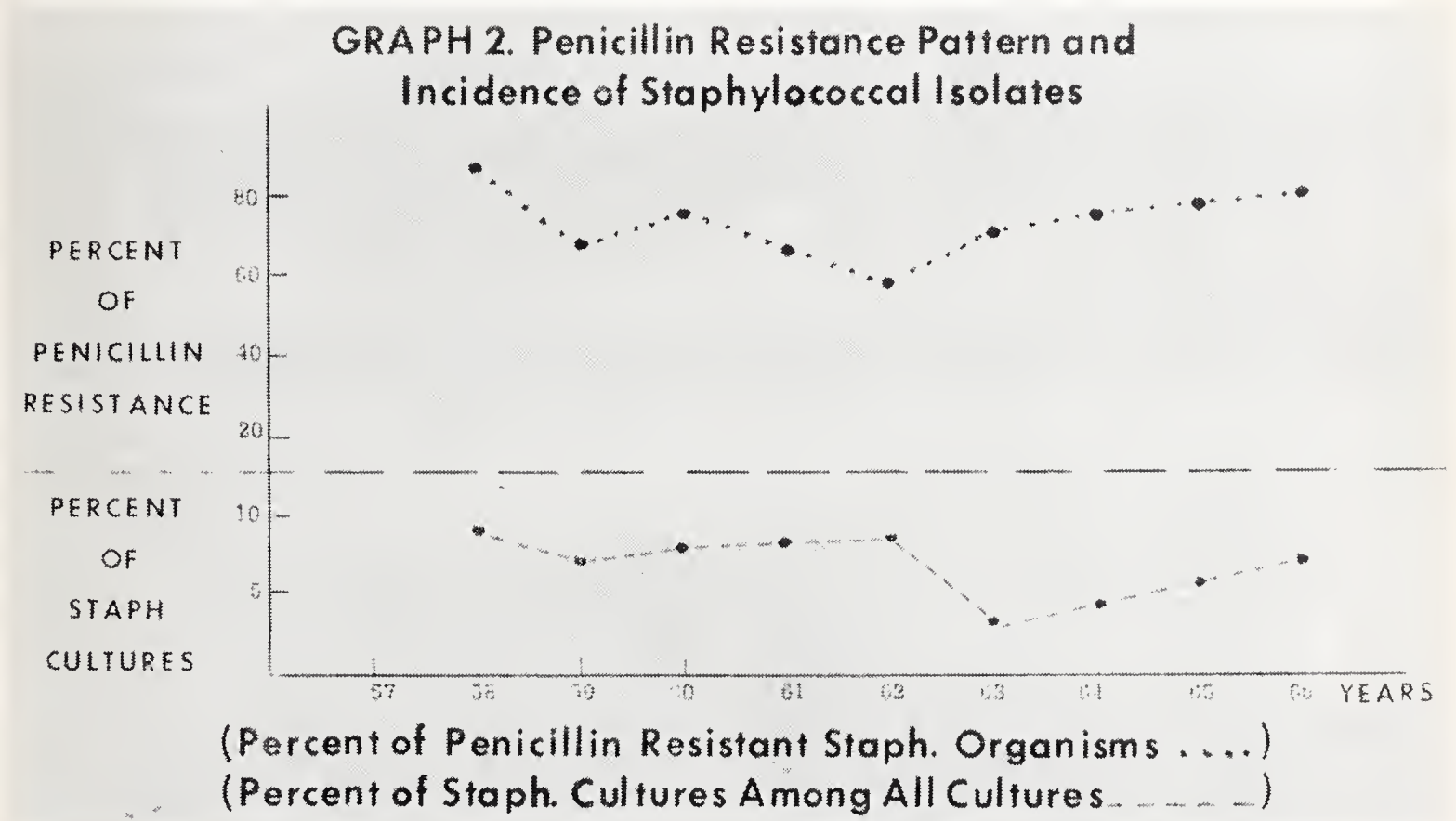


There was a significant decrease in staphylococcal etiology at four years of age (Table 2). Numerically, the greatest amount of Staphylococcal empyema occurred in the one to 24 month old age group, accounting for nine of the 14 cases.

TABLE 2. Number of Deaths and Percent of Staphylococcal Etiology by Age Groupings.

AGES	NUMBER	DEATHS	% STAPH
0-6 mos.	3	0	66%
6-12 mos.	1	0	0
12-24 mos.	9	1	78%
2-4 yrs.	2	0	100%
4-12 yrs.	7	0	29%

A review was made of bacteriologic records in the laboratory of the Alaska Native Medical Center. The total number of coagulase positive Staphylococcal cultures, regardless of age of patient or anatomic site of origin, for the months of December, January, and February from December, 1956 through February, 1966 was tabulated for each three month period. The percent of Penicillin resistance for each total was recorded. The total number of all organisms cultured was figured for each three month period. The ratio of coagulase positive Staphylococcal cultures to other organisms remained relatively constant throughout the 10 year period. The percent of Staphylococcal isolates resistant to Penicillin has also remained relatively constant (Graph 2).



Methods of Treatment

Each of the 22 cases was analyzed to show the types of antibiotics used in the village, the referral hospital and the Alaska Native Medical Center. None of the penicillinase resistant semi-synthetic penicillins were used before May, 1965. Before this date, a large variety of antibiotics were used. Multiple antibiotics in a rather "shotgun" fashion were used simultaneously in the severest cases prior to the semi-synthetic penicillin availability.

In vitro sensitivities to the most frequently used antibiotics against the isolated Staphylococcal organisms revealed the following pattern:

Ten cases had *Staphylococcus aureus* isolated. Seven of these were tested against Chloromycetin and all were sensitive. Five of the ten were tested against Erythromycin and all were sensitive. These results occurred in the early years of the series as well as up to 1965. Eight were tested against Penicillin and only one was sensitive, that

one in 1965. Six were tested against Tetracycline and four were sensitive. After May, 1965, four were tested against Staphcillin and all were sensitive.

All 22 cases had diagnostic needle thoracenteses done. In six cases needle thoracentesis on one or repeated occasions was therapeutic, without need for insertion of a chest tube. Sixteen cases required chest tubes for adequate pleural drainage. Twelve of these 16 were treated with intrathoracic antibiotics (Penicillin, Streptomycin, Tetracycline, or Neomycin) and/or proteolytic enzymes (Varidase). These agents were administered via needle through the chest tubes. Only one patient, a five month old female with right-sided empyema of undetermined bacteriology, required a decortication for removal of a fibrous pleural peel. Seven patients had sinograms. These were used to locate walled-off pockets and guide gradual removal of chest tubes as the intrathoracic pockets became smaller with suction and drainage.

Other methods of treatment in some cases were digitalization, gamma globulin, and whole blood transfusion. None of the patients had primary heart disease, gamma globulin abnormalities, or hemorrhage. These adjunctive measures were used only in the most severe cases. None of the cases after 1958 were digitalized or given gamma globulin. Only one case since 1958 was transfused. This patient had been sick for more than three weeks before admission in Anchorage.

Discussion

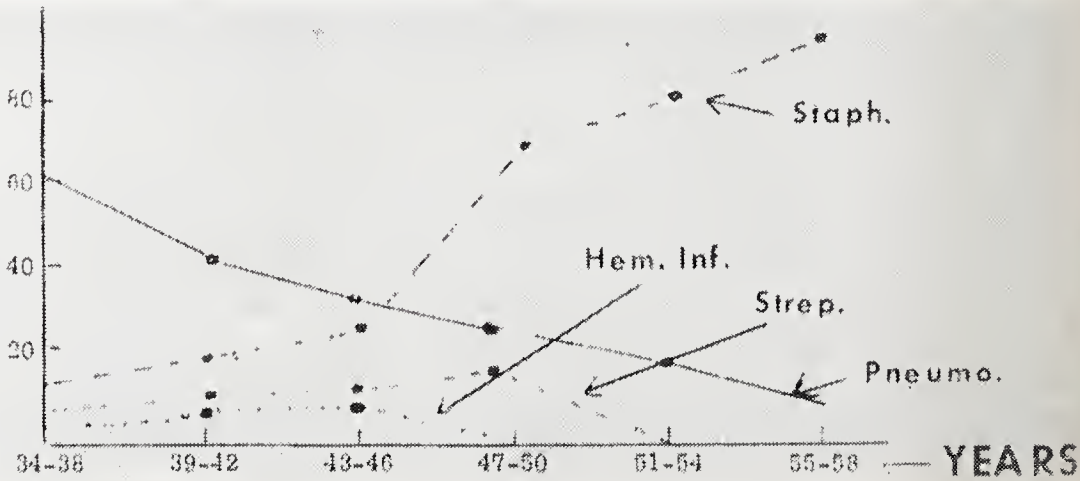
Investigators studying childhood empyema agree that empyema is decreasing in incidence. The majority of cases are now due to Penicillin

resistant *Staphylococcal aureus*. Most writers state that radical surgical treatment is being superseded by antibiotics with thoracentesis or tube drainage. Before the antibiotic era of medicine, the organisms causing empyema in children ranked in the following order of frequency: (1) *Diplococcus pneumoniae*; (2) *Staphylococcus aureus*; (3) *Streptococcus pyogenes*; (4) *Hemophilus influenzae*, and all other organisms, added together, ranked below fourth place. After the introduction of antibiotics it appeared empyema would become a rare illness among children (1). This hoped-for decrease did not last. Ravitch and Fein have shown the chronological pattern of childhood empyema by dividing their study into the six periods for the years shown below (2).

Years	Period
1934-1938	Presulfonamide
1939-1942	Sulfonamide
1943-1946	Penicillin
1947-1950	Penicillin and Streptomycin
1951-1954	Penicillin, Streptomycin, and Chloromycetin
1955-1958	Polyantibiotics.

This study is cited because of how this chronological division into groups, according to chemotherapy trends, reveals the significance of bacterial antibiotic resistance in empyema (Graph 3). The incidence of all types of empyemas except *Staphylococcal* has declined during each antibiotic period. The incidence of *Staphylococcal* empyema has steadily risen during each period. It is important to note that this study was completed before penicillinase-resistant penicillins such as methicillin and oxacillin were clinically available.

GRAPH 3  
(From Ravitch & Fein)  
  
PERCENT  
OF  
ALL CASES





It has been well established that empyema is both more frequent and more lethal in children under two years of age compared with older children (2, 3, 4, 5, 6).

Our 22-case series from the Alaska Native Medical Center was compared in bacteriologic incidence with the series of Groff *et. al.* (1) and Ravitan and Feih (2). Groff *et. al.* reported 23 cases at D. C. Children's Hospital from 1959 to 1964. Ravitch and Fein reported 214 cases from 1934 to 1958 at the Harriet Lane Home (Children's Hospital) in Baltimore. The Baltimore study had 8.9 cases per year compared with only 4.6 cases per year in the Washington, D. C. series. Since these two cities are of comparable population

size (Washington, D. C. 810,000 and Baltimore 925,000 by 1960 census) and both hospitals cited are Pediatric referral centers, these statistics suggest overall empyema incidence is decreasing.

Bacteriologic comparison revealed the Baltimore study to have the highest Staphylococcal incidence (Table 4). The Staphylococcal incidence of the D. C. Children's and ANMC studies were very similar. Although Groff *et. al.* did not name the antibiotics used in the D. C. Children's cases, the availability of Methicillin by 1960-61 suggests its use was very likely in some of their cases. Thus it appears our study was very similar in methods of treatment, mortality, and clinical impressions of empyema pathophysiology.

STUDY	Strept.	D. Pneumon.	Staph.	H. Inf.	Unknown
Ravitch 34-58	0	8%	92%	0	0
Groff 59-64	9.5%	19%	67%	4%	0
ANMC 57-66	0	0.5%	64%	1%	34.5%

TABLE 4. Bacteriologic Incidence of Empyemas in Three Different Studies.

The major difference in treatment methods was that while limited thoracotomy procedures were used in some of the D. C. Children's cases, intrathoracic antibiotics and enzymes were used instead here. There were two deaths in the series by Groff *et. al.* There was only one death in the Alaska Native Medical Center series.

Groff *et. al.* state that use of limited thoracotomy has provided better management in cases with multiple loculations and pneumatoceles characteristic of Staphylococcal empyema (1). The limited thoracotomy allowed insertion of the surgeon's finger to fracture the loculations and thus enhance complete drainage of the empyema fluid. Cases with pneumatoceles as well as loculations require subsequent chest tubes following finger fracture of the space-occupying cysts. This is because finger manipulation of the cysts creates bronchopleural fistulas which require suction via tubes to restore negative intrathoracic pressure.

Our series reinforced the concept that suction through chest tubes plays a major part in reducing the size of empyema pockets. Every effort should be made to re-expand the underlying lung and obliterate the pleural pocket as rapidly as possible. We noted that at least two weeks, and often four to six weeks, were required to obliterate

the pockets. A number of our cases required two tubes for the first one or two weeks of treatment. We used two tubes, not only for multiple pockets, but in cases where one tube was not draining all of the exudate out of a large pocket. In cases where a large bronchopleural fistula exists, the amount of suction used must be gradually increased. Patients with bronchopleural fistulas and/or large empyema pockets can be caused respiratory embarrassment when a pocket is reduced too rapidly or air is suctioned through the fistula at the expense of exchange through the opposite bronchus. After two to four days of low suction (-10 to -20 cm. of Water) patients usually were able to tolerate higher suction (-30 to -50 cm Water) without interference with ventilation of their opposite lung. One of the major drawbacks to prolonged tube suction is the psychological effect of long hospitalization on children. But this approach has prevented the need for decortication in all of our cases since 1958. Patients with severe pleural thickening seen on x-ray after removal of exudate went on to complete radiologic resolution within four to six weeks of chest tube management alone. The use of intrathoracic Neomycin and Varidase in conjunction with tube drainage, in cases with such severe fibrosis, appears to enhance pleural resolution.

## Conclusions

In an attempt to discover the cause of the increased number of empyema cases in the last two years, none was found. Two possible causes were discounted. Population increase (Table 1), did not correlate with the sudden rise of childhood empyema in 1965 and 1966. The population increase was more gradual, occurring in yearly step-wise increments, rather than like the sporadic incidence of empyema (Graph 1). No change in the patient referral mechanism occurred from 1957 to 1966, ruling out this possible explanation for increased empyema cases.

There has been no change in Penicillin resistance to Staphylococci isolated at the Alaska Native Medical Center from 1957 to 1966. There was no change in the incidence of coagulase positive Staphylococcal isolates, compared with all bacterial isolates, during the same period. Comparison of sensitivity patterns to all commonly available antibiotics indicates the Staphylococcal organisms causing empyema in the last two years are the same bacteriologically as those which caused empyema from 1957 to 1964.

Clinical speculation suggests that efforts to decrease the incidence of empyema should be directed toward the causes of predisposing respiratory illness. Since tuberculosis has come under control, influenza, pneumonia and other viral respiratory illnesses lead the causes of morbidity and mortality among Alaska natives.

With the relatively new penicillinase resistant semi-synthetic penicillins, the outlook for successful management of Staphylococcal empyema has improved. Nevertheless, the surgical principle of providing adequate drainage for intrathoracic abscesses, the essential pathological pattern of empyema, remains just as important as correct selection of antibiotics. The averaged length of hospitalization before Staphcillin was available was 125 days. After Staphcillin was introduced in empyema treatment, the averaged length of hospitalization was 120 days.

## Summary

Twenty-two cases of empyema in children from one month to 12 years of age were treated at the Alaska Native Medical Center from July 1957 through April, 1966. There was only one fatality. Nine cases were of proven Staphylo-

coccal etiology. Five cases were diagnosed clinically as due to Staphylococcus. Two cases grew *Hemophilus influenzae* and one grew *Diplococcus pneumoniae*. No bacteriologic diagnosis was made in five cases. No significant change in incidence of coagulase positive Staphylococcal isolates was found over the nine year period. Likewise no significant change in Penicillin resistance of Staphylococcal organisms was found. Thirteen of the 22 cases were in children under two years of age. Nine of the 14 cases of Staphylococcal empyema were in children under two years of age. Sixteen patients were treated with chest tubes. Only one patient required decortication of the involved pleural surface. No deaths occurred since 1958. There were no cases of multiple skin and visceral infections with overgrowth of atypical pathogens such as *Proteus* and *Pseudomonas* since the use of synthetic penicillins in empyema began in May, 1965. Follow-up of patients by physical examination and chest x-ray indicates children show no abnormal physical signs and normal appearing roentgenograms despite severe inflammatory destruction and marked fibrous thickening of the pleura during the acute and early resolving stages of their illness. Radical surgical procedures are rarely indicated in childhood empyema. Early and aggressive minor surgical management, providing good drainage of purulent exudate, and long term (four to six weeks) antibiotic treatment, based on culture and sensitivity evidence, provide the best management of empyema in children.

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# TELEVISION MEDICINE

## Societies Bring "Live" Medicine to Alaska

(by Arndt von Hippel, M.D.)

Many of you may not be aware of the television series jointly put on by the Alaska State Medical Association and The Anchorage Medical Society over KTVA, Channel 11 in Anchorage. This unsponsored half-hour program appears every other Wednesday at 1 p.m. between soaps. It was conceived and delivered by Dr. Alan Homay who also ably conducted the first year of its operation. In February of 1965 I was asked to continue this series by Dr. Royce Morgan, Dr. Theodore Shohl, and Dr. Alan Homay.

The purpose of this program has been to present the medical profession and its work in a simple, positive, and educational fashion. The format used has been that of a panel of one to three guests, usually with myself as moderator. Judging from incomplete data on our "Neilson rating," we fall somewhere between "Ben Casey" and "Gunsmoke." We have avoided any violence on these programs by limiting discussions to topics upon which prior agreement was possible. This may have adversely affected our ratings.

The cooperation of Alaskan physicians has been excellent and we have been able to discuss a wide variety of pertinent medical topics with many different panelists. It is hoped that all Alaskan physicians will consider this as their project and contribute their time, when and as they desire, on any topic of special interest.

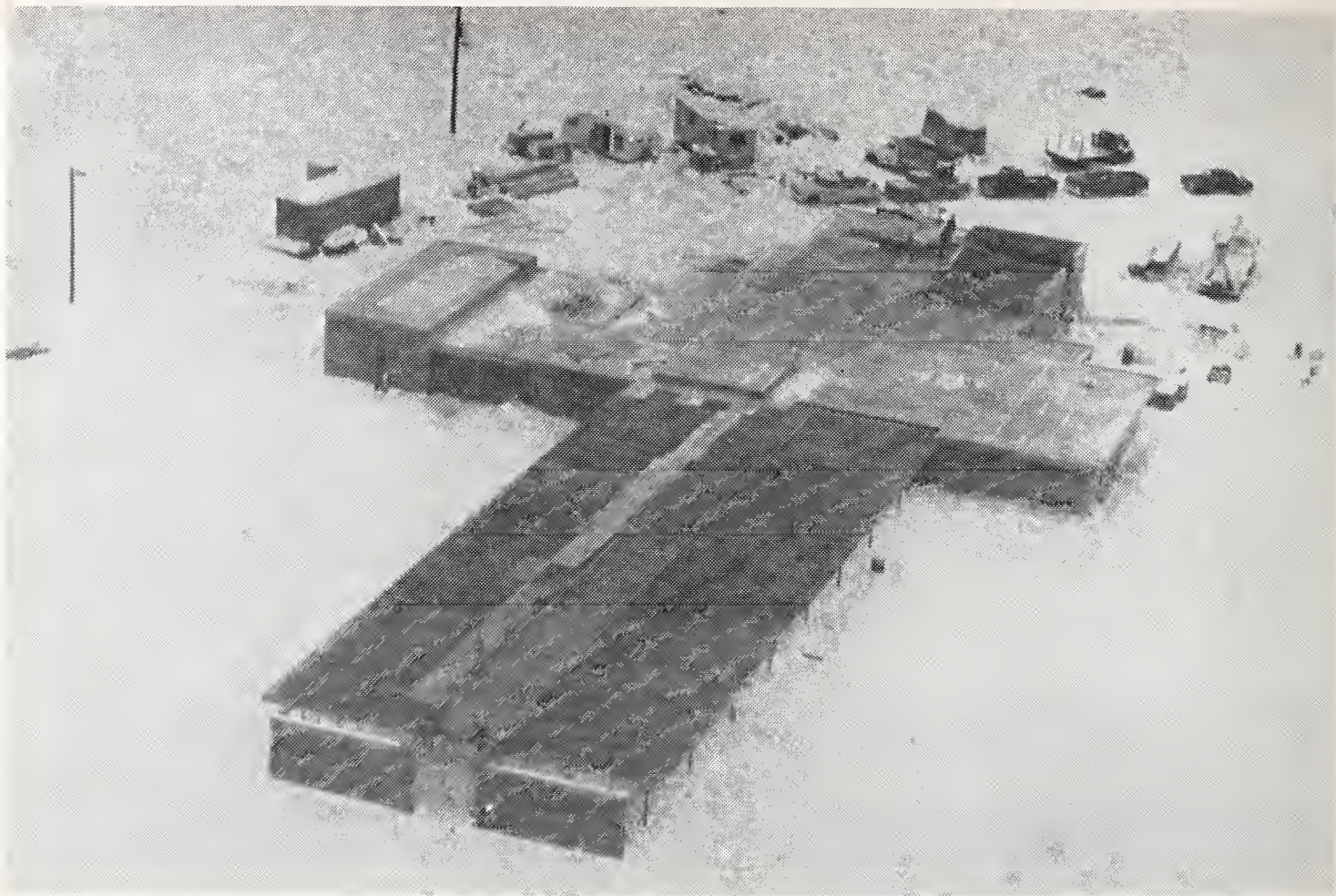
To better acquaint the Society with this series I have summarized our appearances since February. Because of space limitations I cannot do justice to the many excellent panelists and will merely list them as they flickered across the "tube."

- Feb. 16 Dr. William Mills on "Frostbite."
- Mar. 2 Dr. Perry Mead on "Neurosurgical Emergencies and Tumors."
- Mar. 16 Dr. Milo "Gold Schools, Roads & Airports" Fritz and Dr. Doctor Robert Whaley — "Some of the Deterimental Effects of Cigarette Smoking."
- Mar. 30 Dr. Virginia Wright and Dr. Nancy Sydnam on "The Role of Women in Medicine and the Home."
- Apr. 13 Dr. Winthrop Fish on "Obesity."

- Apr. 27 Dr. L. David Ekvall on "Premenstrual Tension."
- May 11 Dr. Warren Jones and Dr. Charles Manwiller on "Common Misconceptions in Medical Practice."
- May 25 Dr. Theodore Shohl, Dr. Winthrop Fish, Dr. George Wichman, and myself, on the emergency evacuation of Providence Hospital of May 25, 1966, occasioned by a ruptured gas main.
- June 8 Dr. Claire Renn and Mrs. Jeane Demente on "Planned Parenthood and Birth Control."
- June 22 Dr. Elden Maxwell, Dr. Charles St. John, and Dr. Paul Isaak on the Flying Physicians Association.
- July 6 Dr. Fred Hood, Dr. Michael Hein, and myself on "Peripheral Vascular Surgery."
- July 20 Dr. George Hale on his plans and reasons for developing a State-wide Cancer Registry.
- Aug. 3 Dr. George Wichman on "The Aching Back."
- Aug. 17 Dr. Mike Beirne and Dr. Mile Fritz on "Further Harmful Effects of Cigarette Smoking."
- Aug. 31 Dr. Grace Jansen, Dr. John Pennington, and Dr. Theodore Shohl on "Indications and Contra-Indications for Various Types of Anesthesia."
- Sept. 14 Dr. Fred Hood and myself on "Cardiac Catheterization in Anchorage."
- Sept. 28 A panel moderated by Dr. Robert Wilkins on "Local Sewage Problems."
- Oct. 12 Dr. Edward Voke on "The Diagnosis and Management of Fractures."
- Oct. 26 Dr. Gilbert Blankenship on "The Development and Use of Drugs."
- Nov. 9 Dr. Theodore Shohl on "Pediatric Surgical Problems."

I would like to emphasize again that comments, suggestions, or criticisms of your Society's appearances on T.V. are appreciated.





## PENINSULA HOSPITAL A REALITY

Kenai-Soldotna Unit Has 30 Beds

(Paul G. Isaak, M.D.)

For about six years there has been an effort, to varying degrees, to build a hospital in the Kenai-Soldotna area. During these years, different types of financing and grants were explored as sources of funds. It wasn't until after the earthquake of March 1964 and the ensuing federal government participation in a rebuilding program, that a means of financing this project became available. This financing was in the form of a 502 Small Business Administration \$350,000 loan. Our original projected cost was \$400,000 for the building, \$100,000 for equipment, and \$150,000 for initial operating capital. Three hundred fifty thousand is the maximum amount available under the 502 program. The remainder \$300,000 was to be raised by the community. The \$350,000 loan was to be repaid within twenty-five years at a four per-cent interest rate. In 1965 the SBA made a survey to determine the most suitable location for this hospital and the possibility of it repaying the SBA loan. After the SBA study, they stated that the

location of the hospital should be within one mile of the "Y" in Soldotna. It was also concluded that a thirty bed hospital was feasible.

The application for the loan was filed in 1965, and the loan approval obtained the same year. An architect was retained in 1966 and his plans for a thirty bed hospital were approved and construction was begun in September. It is estimated that construction will be complete by June or July of 1967.

Our immediate need is an additional \$50,000 which SBA has required we expend on the project before they disburse the \$350,000 loan.

There are presently three physicians practicing in the Kenai-Soldotna area. It is anticipated that a number of consulting physicians from Anchorage will also be using the hospital here. We have a population of approximately 8,000 in a fifty mile radius. It is expected that this number will double in the next five years, which will require expansion of the hospital facility.



# PHYSICIAN LEGISLATORS PINPOINT THEIR SESSION PROGRAMS

Without reservation I was positively delighted to be elected to the Alaska State House of Representatives, Fifth Legislature. It is indeed a very solemn responsibility and one that I do not take lightly.

A vast amount of work accompanies this position, the size and scope of government being fantastic. Actually, a legislator is a director of a very great corporation, the largest in the State, the State itself. The legislator is expected to be knowledgeable and responsible in every department of government. Furthermore, approximately six hundred bills, more or less, are introduced each session and these must be studied, public hearings conducted, and finally, action taken on them by voting. By law, the legislator must vote on each bill.

My purpose in seeking public office was and is primarily the opportunity to serve my state as a loyal and devoted citizen. I also want to participate in the legislative process as an observant, and of course, I want to be in on the action which I surely will enjoy. I expect to place emphasis on a fiscally sound government, a limited government and maximum individual freedom.

Generally, my greatest effort will definitely be in the field of Health and Welfare. This is a vast department accounting for one fourth of the state budget now, with steady expansion. A bewildering array of Federal-State programs exist. The four divisions of this department include Public Health, Mental Health, Welfare, and Youth and Adult Authority. I doubt that anything was left out, and what isn't specifically included in this department is involved in association.

Some specific areas I expect to devote time and attention to will include adoption laws, abortion laws, modernization of the Medical Practice Act, improvement in safety standards throughout the State to reduce our accident death rate from its present three times national average standing, expansion of the State Police Department, clinical laboratory regulation, implementing the legislation for the new Social Security Amendments (Title XIX), and some progressive

Needless to say, it was pleasing that well over 9,000 individuals thought enough of me to vote for me, thus choosing to have me represent them in the forthcoming session of the Legislature.

My reason for running is that for years physicians in the various health agencies have come before the Legislature requesting appropriations and justifying their budget. Because, for the most part, legislators have been absolutely ignorant of the health problems of the State, the health agency representatives have, in many instances, rocked along doing what they thought was the right thing even though many besides myself are convinced that the money requested for health activities in this State could be far more efficiently spent. With three doctors in the Legislature, it should be possible to expose the health problems of this State to the public gaze. Thus, it is my hope that legislation can be enacted to correct the evils that, in my opinion and experience, exist in the government subsidized health activities in Alaska. If legislation is needed, it is my hope that Doctor Haggland, Doctor Beirne, and myself will be able to introduce and have passed measures to improve the health of all the citizens of this State.

The matter of physicians being able to purchase malpractice insurance is a matter of particular concern to physicians who, after all, should be able at a reasonable figure to protect themselves against law suits, whether justified or not.

For years we have talked about a medical practice act to replace the one that is now totally inadequate and long overdue for revision. The three of us should be able to draw as nearly an ideal medical practice act as can be written today, thus protecting the citizens of Alaska against the quack, the cultist, and the incompetent physician. The three of us should be able to get proper legislation drawn up and passed within the next two years.

For years I have sent in reports, appeared before committees, been a member of blue ribbon panels, without being as far as I am able to tell, able to influence medical care for the people of



legislation in the field of alcohol which we know to be a major health hazard in Alaska. Of course, we all must concern ourselves with improved and expanded health care to the native people.

In summary, I can tell you this, that I will work hard and long and do the best job possible within the limits of my ability. I will work to provide laws in the best interests of my constituents, within the framework of a reasonable budget, based on reasonable taxes.

Michael Beirne, M. D.

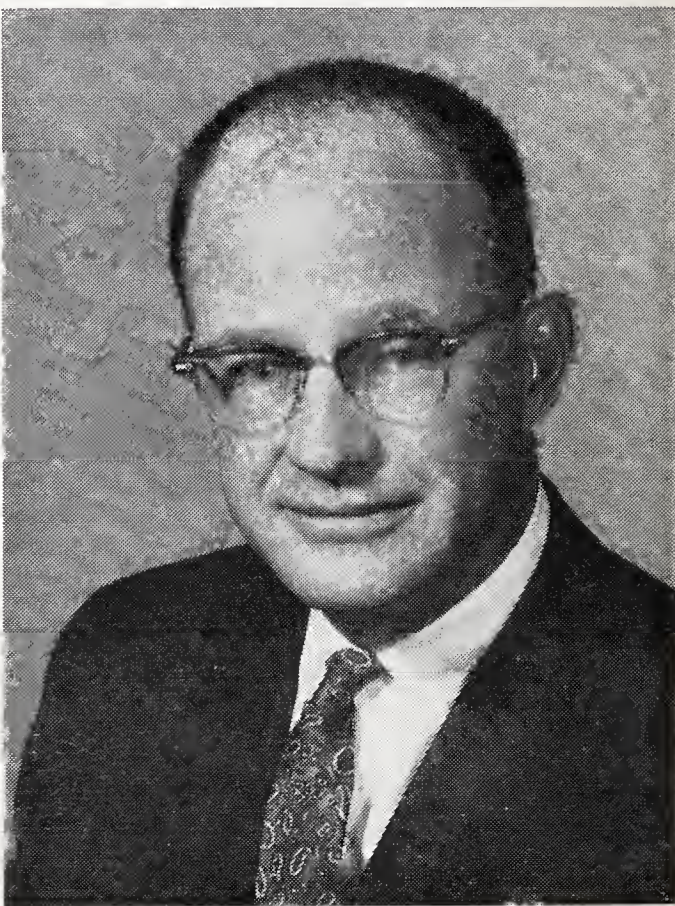
Alaska to the slightest degree. Last year it dawned upon me that the only possible way to improve matters is to get down to Juneau as a legislator and expose what is wrong. If, then, the people are too indifferent or too preoccupied to back corrective legislation, then nothing will have been accomplished.

Long experience with all kinds of people throughout Alaska has shown me, however, that they are a compassionate and unselfish group more than willing to follow the suggestions of experts in any field that will improve matters for all the citizens. If, then, the other two physicians in the Legislature and myself can help make things a little better, their faith in the three of us will have been justified.

Milo H. Fritz, M. D.



Michael Beirne, M. D.



Milo H. Fritz, M. D.



# INGENUITY IS A MUST IN ARCTIC FRONTIERS

## Wildlife and Eskimos Challenge Researchers

There are probably few places in the world where one would find a parasitologist roping a reindeer; or a biochemist analyzing the vitamin content of walrus meat; or a sanitary engineer trying to persuade an Eskimo family that an indoor chemical toilet is preferable to an outdoor privy at 50° below zero. Such occurrences have become almost routine at the Arctic Health Research Center in Anchorage, Alaska where, during the past 18 years, research workers have often found it necessary to use unorthodox methods in dealing with the unusual situations they encounter.

Established by the Public Health Service under an act of Congress in 1948, the primary mission of the AHRC has been to investigate health problems in northern areas with a view to finding workable solutions. Unlike its much more famous and affluent PHS cousin the National Institutes of Health, the AHRC has focused its attention on factors inherent to the region rather than specific diseases per se.

In 1948 when the Center was established, information about Alaska in general and health conditions in particular was fragmentary and subject to gross exaggeration. Cold, igloos and polar bears characterized Alaska in the minds of most people. Low temperature was thought to be the most important single environmental influence and the prevailing attitude was one of "let's leave Alaska to the Eskimos." The Japanese invasion of the Aleutian Chain during World War II and the resultant influx of military personnel into the Territory marked the end of the policy of disregarding Alaska. The northward trek had begun and something obviously had to be done about investigating this vast but little-known piece of U. S. real estate.

Prior to the 1940's, most Alaskan research had been conducted on an expeditionary basis by small groups or single individuals who ventured north for short periods, generally during the short summer. Distance and transportation difficulties plus limited manpower and funds generally restricted these early investigators to one small

segment of a single problem in a sharply circumscribed area of the vast Territory. The proposed establishment of a permanent research facility with a year 'round, resident staff was therefore greeted with hopeful but cautious optimism.

What competent scientist would be willing to abandon the comforts and conveniences of his modern laboratory and home in the States to pioneer in this little-known wilderness reputedly unfit for human habitation? Since there were so few people living in this supposedly inhospitable land, why should anyone be interested in studying their health problems? Besides, what could be learned in Alaska that couldn't be studied just as well in an ice-box in the States?

The skeptics needn't have worried for by their very nature research scientists seem prone to regard the unknown and the seemingly impossible as irresistible challenges. Within a year of its inception the Center had acquired a nucleus of experienced investigators; temporary headquarters had been established; and specific research projects had been outlined. Within two years the AHRC had moved into a building of its own (albeit still a temporary facility converted from an apartment-under-construction) with adequate, well-equipped laboratory and office space. The staff had expanded to include the necessary technical and other supporting personnel, and research was well underway in both field and laboratories.

The process of selecting specific fields and projects for study was largely a matter of winnowing fact from fancy at the outset. Individuals knowledgeable about Alaska and low temperature areas through previous firsthand experience were questioned closely. Reports of both early and recent expeditions were perused. Of great value were the reports of two teams of experts from the American Medical Association who toured Alaska in the summers of 1946 and 1947 at the request of the Secretary of the Interior. In fact, the recommendations based on the findings of these teams furnished the impetus which led Congress to direct the U. S. Public Health Service

to take immediate steps toward setting up a program of health research in the Territory.

When all available information had been evaluated, the consensus was that the program should be organized into six research sections covering environmental sanitation, biochemistry and nutrition, physiology, bacteriology and parasitology, entomology, and animal-borne disease. Although most of the original section titles and their programs have been modified in the interim, current investigations are proceeding along the lines set up in 1948.

Over the years a considerable fund of factual information has been accumulated by the Center regarding man's ability to adapt to or to overcome environmental hazards in the Far North. Much basic data has been acquired through intensive study of the original settlers, the Eskimos, Indians and Aleuts. Many of the investigations have concerned the study of fundamental problems not necessarily confined to the geographic or climatic limits of Alaska. Studies of the causes of high infant morbidity and mortality rates among Eskimos and Indians, for example, have provided

information applicable to populations in other underdeveloped areas. The Center's contributions to knowledge of certain little-known hereditary diseases and animal-borne parasitic infections have brought international recognition to the Center and PHS. Successful demonstrations involving the use of antibiotics for the prevention and treatment of tuberculosis in remote areas without access to regular medical supervision have convinced health authorities to set up similar programs in similar areas elsewhere. Practical application of sound engineering principles has shown that many of the supposedly insurmountable environmental obstacles, such as permafrost, can be overcome.

By July 1, 1967, AHRC will be occupying a new modern facility now under construction adjacent to the campus of the University of Alaska in College, Alaska. Completion of the new Center building marks the culmination of nearly 18 years' effort to establish a permanent Alaskan center for research on arctic health problems, and signals the beginning of substantial expansion of the Center's activities.

**Hotel reservations for your stay in Sitka during the Annual Meeting, June 7-10, 1967, should be made as soon as possible. Pat Sarvela, Dr. T. M. Moore's office nurse has volunteered to help with this vital task. Write now for your reservations: Tillman M. Moore, M.D., Box 1000, Sitka, Alaska.**



# STATE MOURNS PASSING OF DR. W. M. WHITEHEAD

One of the State's most eminent and distinguished physicians. William Massie Whitehead, died of a cerebral hemorrhage November 12, 1966, while at his hunting cabin on Chichagof Island. The 61 year old past president of the Territorial Medical Association had been active in medical practice and community affairs in Juneau for over 30 years. He had earned the respect of professional and lay people alike for his selfless devotion to his patients, his profession and the community. The Robin's Service Award "for distinguished service to the community by a physician" was a well earned and a justly deserved tribute made at the State Medical Association Convention, Anchorage, in May of this year.

After finishing his internship at Virginia Mason Hospital and a tour of duty with the American Mail Line, Bill arrived in Wrangell in 1934. Practice wasn't much so he first married the school teacher, Dorothy Johnson, and second moved to Juneau. Over the years four daughters and a son were born, all of whom still call Juneau home. It's no secret Bill was born, raised and educated in Virginia receiving the M. D. degree from the University of Virginia School of Medicine in 1931. His hearty laugh, Virginia accent (which seemed to grow rather than lessen) and pansy buttonier readily identified Bill Whitehead to his patients and friends throughout the State. He was known as a "real family doctor" and could always be relied upon to answer the call for help no matter the hour or the person. Many of Juneau's citizens today are among the 4,000 babies he estimated he had delivered over the years.

The Juneau Clinic was organized in 1936 along with Drs. W. W. Council, C. C. Carter and W. P. Blanton. He practiced with the group until 1965 when he and Dr. J. J. Dalton established the clinic which bears his name. He was in full time practice until the time of his death.

Of the many honors and responsibilities Dr. Whitehead held, his most valued position was the Secretaryship of the Board of Medical Examiners, a position he had held since 1943. The diligence with which he applied himself to his duties is reflected in and largely responsible for the high quality of medical care enjoyed by Alaskans everywhere.

A more recent but equally important responsibility came when he was appointed to the Board of Regents of the University of Alaska by his close personal friend Gov. William A. Egan. He had long advocated the location of a branch of the University in Southeastern and the last elections saw the authorization of bond issues for establishment of Community Colleges in Juneau and Ketchikan.

He also held appointments on the Territorial Board of Education and the First Judicial Council (chairman). He was elected to a term in the State House of Representatives in 1963.

Within the Medical profession he was a member of the Juneau Medical Society, Alaska State Medical Association, American Medical Association, Southern Medical Association, Virginia Medical Society, Pacific Northwest Obstetrical & Gynecological Society (charter member) and on the editorial staff of the Western Journal of Surgery, Obstetrics and Gynecology. He was a frequent contributor to Alaska Medicine.

He was active for many years in the American Cancer Society and was an Alaska Division past-president and national delegate. At the state meeting in Anchorage this year he was awarded a plaque in national recognition of his efforts in the crusade against cancer.

Locally, he was a charter member and past president of the Juneau Rotary Club, past president of the Chamber of Commerce and a member of the Moose, Elks and Pioneers. He was named as "outstanding man for the year 1965" for the Juneau area.

In spite of all these, Bill could always seem to find time to devote to his flowers. The garden and greenhouse were a source of envy to more than a few local horticulturists.

Crowds ignored subfreezing weather and gale winds to fill the Church of the Holy Trinity and its parish hall to overflowing while business virtually came to a standstill during the funeral services. Burial was in the Pioneers Plot at Evergreen Cemetery in Juneau.

His passing is a great sorrow, not only to his many personal friends, and will leave a niche in the medical profession that will be hard to fill.

# Muktuk Morsels

(by Arndt von Hippel, M. D.)

Dr. Helen Whaley who normally produces this column is taking a one year fellowship in Pediatric Neurology at Stanford in Palo Alto. Dr. Robert Whaley is awaiting delivery of his boat and plans a sailing cruise during part of this time. We hope he will remember everything he has read on sailing at the proper time. They expect to return to Alaska in the fall of 1967. Meanwhile the Anchorage Pediatric Group has been joined by Dr. Richard Paul of Pittsburgh. Dr. Paul is Board certified in Pediatrics, and according to his recent associates at Mt. Edgecumbe, is a far better pediatrician than sailor. Dr. Don Val Langston left Anchorage after five years to practice Pediatrics in Phoenix (1313 North 2nd Street). His practice has been taken over by his former classmate Dr. Betty Woods Hunter of Dallas, whose father is professor of physics at AMU. This leaves Anchorage again with four practicing pediatricians and room for more.

Pediatrics in Fairbanks has also changed. Dr. William H. James has returned to The Tanana Valley Group after completing his pediatric training in Ohio. Dr. Alvin Patrick has left Fairbanks and pediatrics to enter a fellowship in psychiatry at the U. of Oklahoma Medical School in Oklahoma City. Also in Fairbanks Dr. Nicholas Deely has successfully completed his pediatric board examination.

Other changes in Fairbanks include the departure of Dr. Edward Meyer for Salt Lake City to take a fellowship in psychiatry, and Dr. John Fenner who went to work for Newman Associates, a guidance group in Los Angeles. Dr. Robert Taylor is leaving for Pensacola where he will work on aeronautics and space medicine in the Navy. Dr. Joseph A. Worrall has joined the Fairbanks Clinic after retiring from the Army as a Major. He is board certified in obstetrics and gynecology. Dr. Lawrence Dunlap of Virginia, who is board qualified in obstetrics and gynecology, has joined the Tanana Valley Group. Also new in the Tanana Valley Group are Dr. John Noyes, recently of the USPHS in Arizona, and Dr. Martha Kowalski who was previously with the Group Health Program in Seattle. Both are in general practice.

No discussion of Fairbanks medicine would be complete without mention of the imposing new Fairbanks Medical Clinic building. In words of one syllable—Wow!

Down on the Kenai peninsula the dirt is flying as Dr. Paul Isaak ramrods through the new thirty bed Peninsula General Hospital in Soldotna. The latest word here is that there is a floor, and that several walls have been started and reservations are pouring in. New faces include Dr. George Leih of Nebraska who is practicing in Homer, and Dr. Robert Struthers of Portland, Oregon who has opened an office in Kenai. Dr. Herbert James, a board qualified general surgeon has left Seward and is now associated with The Anchorage Clinic. This leaves Dr. Ernest Gentles alone with two hospitals in Seward.

In Palmer, Dr. Gerald A. Jones of Oregon opened an office in general practice after initial delays occasioned by difficulties in obtaining medical liability insurance. Latest word now is that he has returned to Oregon after two months of slow practice.

Dr. William Mills of Anchorage is where the action is, as usual. He has enlisted for a two year stretch in the Navy and is currently chief of orthopedics in Da Nang, Viet Nam. After his year in Viet Nam Dr. Mills plans to pursue his cold weather studies on a six months tour of the Antarctic. His family, plus his niece Rose, who is a student at AMU, are remaining in Anchorage during his tour of duty. (Commander W. J. Mills (MC) USNR-185917, Naval Support Activity, Station Hospital, SPO San Francisco, California 96695). Good luck Bill! Dr. George Wichman has left the Anchorage Clinic and opened a private office in orthopedics in association with Dr. Thomas Kiestner. Dr. Edward Voke of Iowa has entered orthopedic practice in Anchorage associated with Dr. Mills' office. Bringing the total of practicing orthopedic specialists in Anchorage to four is Dr. Paul Dittrich of Minneapolis who opened his office in October. We expect that the new AMU ski jump will get these men off to a flying start.

Some of you may have known Dr. Francis D. O'Brien who entered orthopedic practice in Janu-



ary in Anchorage. Dr. O'Brien, who was retired as Lt. Colonel from the USAF, passed away in June 1966 after a prolonged period of ill health. His wife and children remain in Anchorage.

Women physicians in the news include **Dr. Shirley Fraser**, wife of **Dr. Robert Fraser** who is presently our state TB Control officer. Dr. Shirley left the USPHS in Anchorage, delivered a baby boy, and is now working part-time at The Doctors Clinic in internal medicine. Also **Dr. Marcell Jackson** took time out from her busy general practice to produce a baby girl.

**Dr. George Hale** has been elected president of the Alaska Chapter of The American Cancer Society for the coming year. Dr. Hale has traveled the state extensively for the American College of Surgeons program on cancer registries.

**Dr. David Sim** of Edmonton will have been in general practice at the Doctors Clinic for six months when he enters the Navy in January. At the Anchorage Medical Clinic **Dr. Asa Martin** has made news as the new president of The Life Insurance Company of Alaska. Also new in town is **Dr. Robert Townley** who is board qualified in obstetrics and gynecology. Dr. Townley recently came to Anchorage as an associate of Dr. L. David Ekvall, and is now associated with the Anchorage Clinic.

Covering Dr. Calvin Johnson during a six months absence is **Dr. Frank Nicholas** of North Carolina. Dr. Nicholas has a younger brother at AMU and plans to remain in the Anchorage area in general practice.

The number of practicing anesthesiologists in Anchorage increased to four with the opening of a private office by **Dr. James Fraser** of Oregon. Dr. Fraser is recently out of the USAF, Elmendorf and is board qualified. **Dr. Grace Jansen** of Anchorage recently passed her anesthesiology boards between mountain climbing expeditions.

**Dr. Eugene Chernell** has come to Anchorage from Mississippi and is associated with Dr. William Rader in the practice of psychiatry. Dr. Chernell is board eligible in psychiatry. **Dr. Michael Hein** has his first child, a son. **Dr. James Coin** was back in town to investigate the possibilities for a private practice in radiology. At present he is in Great Falls, Montana. If he returns there will be four practicing radiologists in Anchorage. In Pathology, **Dr. Mike Beirne** has left the Providence Hospital Pathology Depart-

ment and **Dr. Fred Strauss** is acting chief. The Doctors Clinic in Anchorage has tentatively hired a full time pathologist to start in January. He apparently will not be associated with The Alaska Medical Labs. The **Alaska Native Medical Center** now has a fulltime pathologist, as does **Elmendorf Hospital**.

**Dr. Paul Shetler** left Dr. Morgan's office and has joined the "green berets." His family has moved to California. **Dr. Henry Granat** has joined the psychiatric staff at API. Dr. Granat recently retired from the staff of DeWitt State Hospital, near Sacramento, California.

**Dr. Fred Hood** passed his thoracic boards to become the second board certified thoracic surgeon to open an office in Anchorage in the past eighteen months. Dr. Hood has greatly strengthened our cardiac catheterization program and heart surgery team.

In Juneau, with the death of **Dr. William Whitehead** on a hunting trip, Alaska Medicine lost one of its pioneers. Dr. Whitehead was active in state education and medical affairs and will be sorely missed. **Dr. Henry Akiyama** recently left the Juneau Clinic and opened a private office for the practice of internal medicine in Juneau. Dr. Akiyama's new office is completely equipped, even having image intensification equipment. New to the Juneau Clinic in general practice is **Dr. Bob Reynolds** of Texas.

Congratulations are due to **Dr. Paul Haggland**, **Dr. Mike Beirne** and **Dr. Milo Fritz** on their election to the state legislature! On the basis of recent legislative performances possibly we should have elected a pediatrician or a psychiatrist. The **Chapmans**, formerly of Cordova, and now living in San Francisco, had a new son recently.

Many Alaska physicians knew and respected **Dr. Joseph Crampton** of the Virginia Mason Clinic who died several weeks ago following a prolonged illness with Guillam-Barre syndrome.

The **Mayo Cardiac Clinic** team this year was busy and well received in Mt. Edgecumbe, Anchorage and Fairbanks. The team physicians were **Dr. William W. Weidman**, **Dr. Robert H. Feldt**, **Dr. Robert L. Frye**, **Dr. Owings W. Kincaid**. They were impressive both in their patient work and their lectures. At Mt. Edgecumbe they saw patients primarily from the Native Service and

from Sitka, and except for Dr. David Dale who flew in from Wrangell, and myself, only physicians from Sitka and Mt. Edgecumbe attended. There was a good turnout of physicians in Anchorage and Fairbanks and the men were properly exhausted when they took the midnight plane out of Fairbanks. This year's clinic was supported by the **Alaska Heart Association** alone, without the customary financial assistance from the Alaska Department of Health.

Dr. Bruce Wright, Dr. George Hale and Dr. Robert Wilkins have attended several meetings in Seattle on the new **Heart, Stroke, and Cancer** program, and we will hear more of this in the near future.

We have heard several unconfirmed rumors of other changes in the physician population of Alaska and would appreciate getting any new or interesting Muktuk for our next issue.

## A TOAST

To the Friday noon Knights of the Table Round—  
What theories, what “breakthroughs” do they gravely expound  
As they munch on their hamburgers, french fries and such  
Or incise their steaks with deft surgeons’ touch?

There’s Sir Charles, and Sir Milo, Sirs Donald and Wallace,  
Sir Mahlon, Sir Joseph—all offer solace  
Each in his own anatomical sphere  
For ills of the eye, nose, throat or ear.

Long may they prosper! May there be no surcease.  
May their Table grow bigger, their number increase  
For the problems are many and their skills are renowned  
From Prince of Wales Island to Kotzebue Sound.

Anonymous



# ALASKA, WASHINGTON TO BENEFIT FROM PREVENTABLE DEATHS GRANT

A grant of \$213,998 to link the states of Washington and Alaska in a broad-scale attack on preventable deaths from heart disease, cancer and stroke was announced today by the National Institutes of Health and the congressional delegations of both states.

The objective of the grant, which is expected to total \$686,727 over a three-year period, is to devise ways for prevention and more effective treatment of the three "killer diseases," which together account for 70 per cent of deaths in the United States.

The program will be planned by a 29-member Regional Advisory Committee representing physicians, hospitals, related health professions, private health agencies, public health departments, the University of Washington School of Medicine, and the general public.

Dr. Donal Sparkman, associate professor of medicine at the medical school, has been named the full-time coordinator of the new program.

In order to speed the flow of new medical information from the research laboratory to the bedside, the first session of the 89th Congress authorized establishment of a number of regional programs. Earlier this year, health organizations of Washington and Alaska met and decided to form a single region.

Dr. Sparkman said the first emphasis will be on a fact-finding program. Later the Regional Advisory Committee will determine the most advantageous methods of getting advanced techniques of prevention, treatment and rehabilitation to doctors, nurses, hospital employees and others concerned.

In Washington D. C., Dr. Robert Q. Marston, associate director of the National Institutes of Health and chief of the division of Regional Medical Programs, said:

"We are delighted to approve the grant to the Washington-Alaska Region, since it brings a very large and important part of the country into the total effort of the program. We are impressed

with the initiative and cooperation already shown by the doctors and health organizations of these two states. The law does not impose any solutions from above on local planning groups. Rather, it presents an opportunity to work together locally, and Alaska and Washington are among the leaders."

The Regional Advisory Committee met on May 21 and September 10. Another meeting is scheduled for October 29.

Members of the committee, and the organizations they represent, are: Washington State Medical Association, Dr. Carl P. Schlicke, Spokane, and Dr. Lucius D. Hill, Seattle; Washington State Dental Association, Dr. Ralph Huey, Renton; Washington State Nurses Association, Jeanne M. Irving, Everett; Washington State Hospital Association, John Bigelow, Seattle, and Harry Wheeler, Spokane; Washington Division, American Cancer Society, Dr. John Finley, Seattle; Washington State Heart Association, Dr. Robert M. Levenson, Seattle; Washington State Department of Health, Dr. Bernard M. Bucove, Olympia; Local Health Officers Association of Washington, Dr. Sanford P. Lehman, Seattle; Vocational Rehabilitation, Harold L. Fish, Seattle.

Alaska Representatives are Dr. Levi M. Browning, Commissioner of Health and Welfare, Juneau; Dr. Bruce C. Wright, Alaska Medical Association, James D. Lanham, Alaska Division of American Cancer Society, and Thomas B. Stewart, Alaska Heart Association, all of Anchorage.

Additional Washington members are: practicing physician representatives, Dr. Amos P. Bratrude, Omak, Dr. Paul Dygert, Vancouver, Dr. Patrick A. Lynch, Yakima, Dr. Paul Shields, Spokane; Dr. Gordon Logan, Dr. Thomas Carlile and Dr. Allan Lobb, all of Seattle; University of Washington, Dr. John R. Hogness, Dr. Donal R. Sparkman and Dr. John N. Lein.

Washington public representatives include Mrs. George Lamb of Hoquiam, C. Robert Ogden and W. R. Williams, Spokane, and William E. O'Neil, Stanwood.

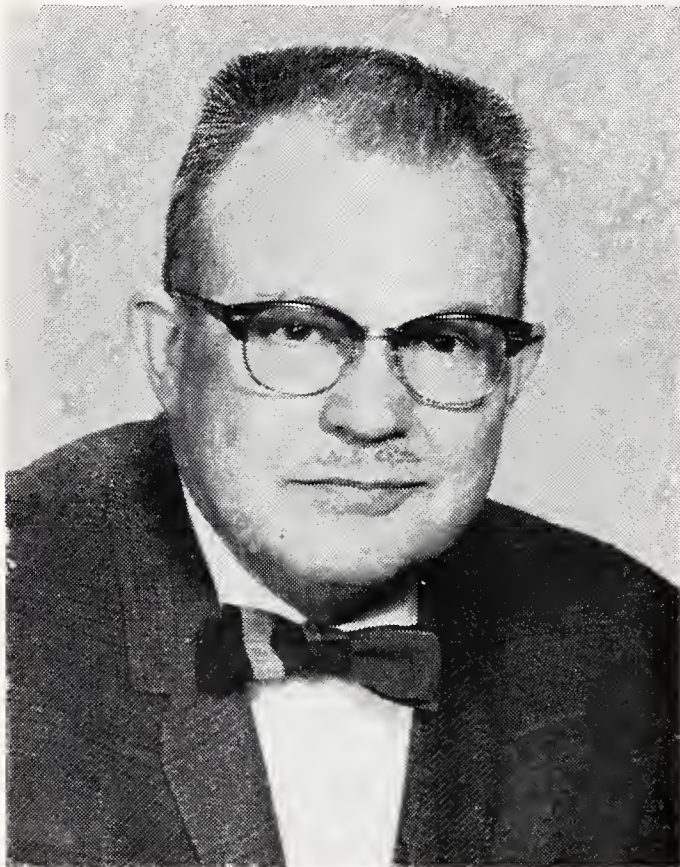


# PRESIDENT'S PAGE

Robert H. Shuler, M.D.

*President Alaska State Medical Association*

First, the important news — we have a new executive secretary for the Alaska State Medical Association. He is Mr. Robert Ogden, of Juneau, formerly business manager of the Juneau Clinic. Bob has standard equipment like a wife, 2 kids, brains, and enthusiasm for a chance to develop his new job into its fullest potentialities. His Alaskan heritage and loyalty, and knowledge of



*Robert H. Shuler, M.D.*

our problems and purposes from the inside because of his experience with clinic management made him an outstanding applicant. Don't miss the opportunity to meet and welcome him when you are in Anchorage.

A progress report will be sent out in a separate bulletin regarding convention plans. The most important thing is that if you have any kind of an article or "paper" under construction, please let the Anchorage office know. There's no reason at all why the "local boys" can't contribute to the scientific section of the convention, but we need titles by March 1st at the latest. Since we need

material for this journal, why not combine the two in a single effort?

That brings me to my idea for the month: a clearing house for gimmicks which you may have found useful in reducing paper work for insurance companies, or agencies, in your own office, or even simple contrivances which cut down wasted time for the office nurse. Example: I frequently do a methylene blue stain for fast diagnosis (instead of sending slides to the hospital lab). Problem was blue stains all over the sink. Answer was blue (!) plastic funnel in the drain, put slide in funnel, drop on stain 1 minute, turn on the faucet and use finger to guide water across slide —no mess!!! Happier nurse.

Another example, (not mine): For those special reports on a new insurance client, requesting dates, lab findings, medications et cetera. Have the office nurse or receptionist fill in the form from your chart, send it in with a note: This is a routine answer to a routine request. If the matter is of sufficient importance to demand more specific information or consultation, please ask your Medical Director to write a specific request. My fee will be \$.....

I'm sure there are many time and labor saving devices which we have all worked out in response to the increasing demands of assorted agencies, both private and public. Do we **really** have an obligation to the "Alphabet Agencies" to fill out all those forms for free, particularly when your own inquiry about the status or treatment of the **same** patient by the **same** agency may net this reply on a form letter: "The charge for this service will be \$.50 per page with a minimum of \$2.50. Please remit in advance." ???

Standard insurance forms have become more or less universal, (if you don't use 'em you are wasting a lot of office time) so why can't we set up a standard reply form for the bureaus? It might frustrate them as much as it does us to work over those forms for a hungry, weary hour every night after the last patient has gone home to dinner!



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